DOCUMENT RESUME

ED 055 134 UD 011 832

AUTHOR Coates, William D.
TITLE Kalamazoo Desegregation Study--Phase I.
INSTITUTION Kalamazoo Public Schools, Kalamazoo, Mich.
PUB DATE 71
NOTE 100p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Integration Effects; *Negro Students; *Neighborhood School Policy; Neighborhood Schools; Racial Discrimination; *School Integration; *Student Attitudes; Teacher Attitudes; Verbal Communication
IDENTIFIERS Kalamazoo Public Schools; Michigan

ABSTRACT

Shortly after the Kalamazoo Public Schools adopted an extensive desegregation plan based on a two-way busing approach patterned after the Berkeley California Schools, a study designed to reveal strengths and weaknesses of the proposed plan was commissioned. It was originally intended to collect appropriate baseline data prior to desegregation and then to observe subsequent changes in the data at various times after the desegregation had been implemented to obtain systematic feedback regarding desegregation effects. The collection, analysis, and interpretation of the baseline data collected during the spring of 1971 constituted Phase I of the overall study. The findings of only the Phase I study are reported here. This document is a report of research findings in classrooms operating on the neighborhood school concept; it is not an evaluation of desegregation effects. In behavioral terms it is considered that there is no reason to believe that Kalamazoo teachers, as a group, discriminate against black students; teachers are just as accepting of ideas expressed by blacks as of those expressed by whites. Yet black students at both the elementary and secondary levels are held to have more unfavorable attitudes toward the school environment and seem to feel that teachers are less accepting of them than do whites. (Author)

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

N-AI
4D

ED 073174

KALAMAZOO DESEGREGATION STUDY – PHASE I

A Study of the Relation Between Racial Composition Based on the Neighborhood School Concept and Classroom Verbal Interaction Patterns, Student Opinions, and Teacher Perceptions.

William D. Coats, Director
Educator Feedback Center
Western Michigan University

UD 011832

KALAMAZOO DESEGREGATION STUDY--PHASE I

A study of the relation between racial composition based on the neighborhood school concept and classroom verbal interaction patterns, student opinions, and teacher perceptions.

Submitted to: Kalamazoo Public Schools

Submitted by: Dr. William Coats, Director
Educator Feedback Center
Western Michigan University

ACKNOWLEDGEMENTS

Many people contributed to the completion of this study. The writer is indebted to:

The teachers--who had the courage and self-confidence to allow observers in their classrooms and to permit students to express opinions about them.

The building principals--who were helpful with the routine problems of getting access to classrooms.

The students--who were somewhat inconvenienced by our data gathering procedures.

The classroom observers--who quickly learned how to use the behavior classification system, collected interaction analysis data, and administered questionnaires.

The four research assistants, Messrs. James Boothe, Charles Porter, Matthew Proctor, and George Ticknor--who gave unselfishly of their time and energy in assuming major responsibility for various components of the study.

Mrs. Anne Martin--who had major responsibility for typing and organizing the final manuscript.

Special recognition and appreciation is hereby given to two additional people:

Mr. Charles Townsend--who supervised the processing of data and wrote numerous special-purpose computer programs.

Mr. Robert DeYoung, Director of Special Programs for the Kalamazoo Public Schools--whose insights and commitment to the value of systematic feedback served as the catalyst for initiating the study and who was of much assistance to the writer during all phases of the project.

CONTENTS

		Page
Acknowledgements		ii
List of Tables		iv
List of Illustrations		v
List of Appendices		vi
Chapter		
I	Introduction	1
	Rationale and Related Literature	2
	Objectives	4
II	Design	6
	Instrumentation	6
	Sample	28
	Procedures	29
III	Results	34
	Verbal Interaction Patterns	34
	Student Opinions	49
	Teacher Perceptions	59
	Congruence Between Student and Teacher Opinions	63
IV	Summary, Conclusions, and Recommendations	67
	Summary	67
	Conclusions	72
	Recommendations	74

LIST OF TABLES

Table		Page
1	Behavior Classification System Developed for Kalamazoo Desegregation Study--Phase I	8
2	Verbal Interaction Variables Studied	12
3	Description of Classrooms in Sample	30
4	Classroom Interaction Analysis Comparisons for Elementary	37
5	Interaction Analysis Data for Black Students at Elementary Level	41
6	Classroom Interaction Analysis Comparisons for Secondary	45
7	Interaction Analysis Data for Black Students at Secondary Level	47
8	Comparisons on Elementary Student Opinion Questionnaire	51
9	Black-White Comparisons on Elementary Student Opinion Questionnaire	53
10	Comparisons on Secondary Student Opinion Questionnaire	55
11	Black-White Comparisons on Secondary Student Opinion Questionnaire	57
12	Relation Between Student Opinions and Grade Level for All Students	58
13	Relation Between Student Opinions and Grade Level for Black Students	60
14	Relation Between Student Opinions and Grade Level for White Students	61
15	Teacher Opinions Related to Classroom Racial Composition	62
16	Relation Between Student Opinions and Teacher Perceptions of Student Opinions	65

LIST OF ILLUSTRATIONS

Figure		Page
1	12 x 12 Matrix for the Kalamazoo Study	9
2	Pictorial Operational Definitions.	24

LIST OF APPENDICES

Appendix		Page
A	The Teacher Opinion Questionnaire and the Administrator Image Questionnaire	77
B	Correspondence.	82
C	Guidelines and Information for Classroom Observers and Monitors.	87

Chapter I

Introduction

The original objective of the present study was to provide an outside evaluation of certain components of the Kalamazoo desegregation plan adopted during the spring of 1971. Baseline data were collected during the last three weeks of school, prior to desegregation, with the intention of observing subsequent changes in the data at various times after the desegregation plan had been implemented. Phase I of the study was to consist of the collection of the baseline data in classrooms based on the neighborhood school concept. Phase II was to involve the collection of comparative data at appropriate times after the desegregation plan had been put into effect.

It was recognized throughout the design of the study that, depending on certain contingencies such as the coming school board election, legal actions, and court decisions, Phase II may never occur. Due to the changed composition of the school board resulting from the June election, it appeared that the desegregation plan as originally adopted had been rescinded and would not be put into practice immediately. In its place a voluntary desegregation plan was proposed. During that time, the study took on a different thrust in that any comparisons of data collected in the near future with data collected last spring would have reflected changes on criteria measures which were a function of a voluntary rather than a forced desegregation program. At the time of this writing, a court decision has been made which requires that the original plan be made operational. Regardless of the type of desegregation plan finally adopted, the extensive data collected last spring should be of vital concern to decision makers in the Kalamazoo Schools as well as to school patrons.

The report presented here is a description of Phase I of the overall study. Hence, the report is based only on the baseline data collected during the spring

of 1971. This study compared 61 selected classroom verbal interaction variables and several types of student opinions with racial composition of classrooms based on the neighborhood school concept which was practiced last year. What follows are a rationale for the data collected and comparisons made, procedures followed in conducting the study, and the findings of Phase I.

Rationale and Related Literature

At the time the study was designed it was assumed that the Kalamazoo Public School System was in a unique position in that it was the only school system roughly representative of the black-white racial composition of the United States to attempt desegregation through two-way bussing. Most other school systems, often mentioned as having achieved desegregation through bussing,simply closed down substandard buildings in black neighborhoods and bussed black children into white neighborhoods. The only school system, Berkeley, to attempt complete two-way bussing was quite atypical due to its dominant university influence and approxiamtely equal racial composition. Furthermore, Berkeley collected no baseline data on the variables studied here prior to implementing its desegregation plan, thus making it impossible to measure the effect of the plan on such variables.

Arguments presented for and against forced desegregation are normally based on personal philosophies and beliefs. From a scientific point of view there are little solid empirical data related to desegregation effects, and what data are available leave many questions unanswered regarding the desirability of two-way bussing in a city such as Kalamazoo.

A few of the major summaries and findings are reported below. For a more extensive discussion of studies related to desegregation effects the reader is referred to Appendix A of this report.

In the most outstanding available review of research related to the effects of desegregation St. John (1970) reviewed results of nearly 100 studies

and discussed the rather obvious and serious research design limitations of each. Among her conclusions were: "...integration has little negative effect minority group performance and apparently has a positive effect, though it is hard to be sure, since other variables could account for the observed trends." and "...the case for the beneficial effect of desegregation is marred by several methodological shortcomings." Studies completed since the report by St. John continued to be plagued by the same methodological problems, and some (Purl, 1971, and Aberdeen, 1970) revealed a disturbing negative effect of desegregation on certain types of growth of black children.

In the study by Aberdeen, negative changes were found in the leadership status of black children when this status in all-black classrooms was compared to that in predominantly white classrooms to which the children were bussed as a result of closing their neighborhood school in the black community. Black children who had been leaders in the black majority classroom experienced an extreme loss of leadership when placed in a majority white classroom.

The primary limitation of the research on desegregation was the lack of control of intervening variables sometimes referred to as confounding or nuisance variables. Probably the most serious of these confounding variables concerned the fact that the type of desegregation measured was not authentic in the sense of reciprocal black and white involvement. That is, black children were bussed into white communities while white children remained in their neighborhood schools. Many black people interpret this kind of desegregation as condescending acceptance of blacks by whites. In such situations whites seem to be saying to blacks, "We will receive black children in our neighborhoods so that they might benefit from the high level cultural experiences available in the white community, but we believe that school attendance by white children in black communities could only be detrimental." Such perceptions on the part of black people might have been an overwhelming confounding variable

accounting for the inconsistent findings of research on desegregation effects.

The type of baseline data collected here placed emphasis on student performances which were slightly different from those receiving top priority in other desegregation studies. Although schools are of vital importance to the growth of children, they are often "taken too seriously" in that changes in programs or practices are usually expected to result in immediate, significant, and long-term changes in such variables as academic achievement and attitudes toward an entire race of people. It is unreasonable to expect a sudden meaningful change, either positive or negative, in academic achievement or racial prejudice as a result of simply changing racial composition of classrooms. Achievement and attitude are important variables to consider but often too stable to reflect immediate change as a result of desegregation. Of course, an important ultimate criterion for determining the effectiveness of desegregation at the elementary level would be the nature of black-white relationships of these same children several years later at the high school level. But in the meantime, it is possible and important to obtain related behavioral measures over which one can reasonably expect that changed racial composition of classrooms might have some effect. Obtaining these measures both before and after the implementation of a desegregation plan would enable one to identify strengths and weaknesses necessary for the modification of existing plans and the development of new ones. The data discussed here are based on measures obtained before the implementation of any large-scale desegregation plan in the Kalamazoo Public Schools.

Objectives

The objectives of this intermediate report were to obtain information regarding the following questions for the public schools of Kalamazoo:

1. Do classroom verbal interaction patterns vary with racial composition based on the neighborhood school concept?

2. Do classroom verbal interaction patterns involving black students differ from those involving white students?

3. Do student reactions to teachers, to the school environment and to each other vary with racial composition based on the neighborhood school concept?

4. Do reactions of black students toward teachers, the school environment, and each other differ from those of white students?

5. Do students at different grade levels have different reactions toward teachers, the school environment, and each other?

6. Do teacher perceptions of their jobs, principals, and students vary with classroom racial composition based on the neighborhood school concept?

7. What is the congruence between student opinions regarding selected classroom variables and teacher perceptions of student opinions?

Chapter II

Design

The design of the study involved the construction of instruments for gathering data, selection of the sample, and development of procedures. Each of these is discussed below.

Instrumentation

The specific variables measured in a representative sample of classrooms in the Kalamazoo system were: classroom verbal interaction patterns, student opinions, and teacher perceptions. Three other measures were obtained but not reported here because such reporting would have violated the anonyminity guaranteed to cooperating teachers. These other variables were teacher ratings of principals, teacher judgments of student leaders, and administrator ratings of teachers. Related measures of student achievement will be available at a future data through Kalamazoo's existing testing program and eventually will be compared with data obtained in this study.

Classroom Verbal Interaction Patterns--The dependent or outcome variable receiving primary emphasis in this study was classroom verbal interaction patterns. It was assumed that a major function of desegregation is to move toward integration. Recognizing that the presence of racially mixed classrooms does not guarantee increased positive interaction, it is essential to determine the direction and extent of such changes.

The behavioral measures used in this study were similar to those used by an athletic coach. When the average person goes to a basketball game he leaves with a general impression of certain outstanding player performances. This impression is often based on irrelevant cues, such as one or two spectacular plays, and may not reflect an accurate assessment. The coach, however, wants

much more systematic feedback; so, he has a clerk using a scoring sheet keep a record of performance based on relevant behaviors. These behaviors might include: field goals attempted, field goals made, free throws, rebounds, turnovers, and assists. The scoring sheet is actually a behavior classificating system based on behaviors related to quality of basketball performance.

A behavior classification system similar to scoring sheets used by athletic coaches was used to measure classroom verbal interaction patterns in this study. The classification system used is shown in Table 1. This system lists the set of behaviors which served as the basis for the type of classroom verbal interaction patterns studied. Categories 1-5 refer to teacher behaviors while categories 6-8 refer to student behaviors. The system is similar to the one developed by Flanders (1964) for which considerable normative data are available (Coats, 1966) for comparative purposes. From this basic eight category system one can develop a 12 x 12 matrix displaying information on literally hundreds of verbal interaction variables.

Trained observers used the behavior classification system to collect data on spontaneous verbal interactions in representative classrooms by writing down in sequence every three seconds the number of the category which represented the kind of verbal interaction that had taken place during the preceding three second period. Observers also made notes related to different time use categories and other occurrences of special interest. So, at the end of an observation period an observer had a sequential list of arabic numerals and a few notes. The list of numerals was then transformed into a 12 x 12 matrix similar to the one shown in Figure 1 for each class.

In order to see how the conversion of a sequential series of numbers into a matrix takes place, consider the short series 4, 6_1, 4, 6_1, 6_2, 6_2, 1, 1, 6_3, 6_3, 7_2, 7_2, 1, 2, 2, 1. This series has been converted into tallies in the matrix in Figure 1. A tally for each sequential pair is entered into a matrix

Table 1

BEHAVIOR CLASSIFICATION SYSTEM DEVELOPED FOR
KALAMAZOO DESEGREGATION STUDY--PHASE I

TEACHER TALK	1.	CRITICISM:--statements intended to change pupil behavior from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
	2.	DIRECTIONS:--directions, commands, or orders to which a pupil is expected to comply.
	3.	LECTURE:--giving information other than directions.
	4.	QUESTIONS:--asking a question about content or procedure with the intent that a pupil answer based on teacher ideas.
	5.	ACCEPTANCE:--accepts the ideas or feelings of the student in a non-threatening manner. Praises or encourages pupil action or behavior;-as the teacher brings more of his own ideas into play, shift to category three.
PUPIL TALK	6.	BLACK STUDENT T[illegible]: 1. RESPONSE:--talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited. 2. INITIATION:--talk by pupils which they initiate. Expressing own ideas is much more evident, like asking thoughtful questions. Student may disagree with viewpoint of teacher and/or other students in a non-threatening manner. 3. DEROGATORY:--different from 6-2 in that student directs rude, disrespectful and insulting remarks toward the teacher or fellow student.
	7.	WHITE STUDENT TALK: 1. RESPONSE:--talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited. 2. INITIATION:--talk by pupils which they initiate. Expressing own ideas is much more evident, like asking thoughtful questions. Student may disagree with viewpoint of teacher and/or other students in a non-threatening manner. 3. DEROGATORY:--different from 6-2 in that student directs rude, disrespectful and insulting remarks toward the teacher or fellow student.
	8.	CONFUSION:--short periods of confusion in which communication cannot be understood by the observer.

*There is NO scale implied by these numbers. Each number is classificatory; it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

			TEACHER TALK					STUDENT TALK						
								Black 6			White 7			
			Criticism 1	Directions 2	Lecture 3	Questions 4	Acceptance 5	Response 6_1	Initiation 6_2	Derogatory 6_3	Response 7_1	Initiation 7_2	Derogatory 7_3	Confusion 8
TEACHER TALK		Criticism 1	1	1										
		Directions 2	1	1										
		Lecture 3												
		Questions 4						2						
		Acceptance 5												
STUDENT TALK	Black 6	Response 6_1				1			1					
		Initiation 6_2	1						1					
		Derogatory 6_3								1		1		
	White 7	Response 7_1												
		Initiation 7_2	1									1		
		Derogatory 7_3												
		Confusion 8												

Figure 1

12 x 12 Matrix for the Kalamazoo Study

cell whose row number equals the first number of the order pair and whose column number equals the second number. Using the above list a tally would be placed in cell (4, 6_1) for the first sequence of events, in cell (6_1, 4) for the next sequence and so forth in overlapping fashion until a tally for the last pair (2, 1) is entered into the row 2 and column 1 cell. The PDP-10 computer system at Western Michigan University was used to transform the observers' sequential lists into matrices.

Note that the sum of the tallies in an area of the matrix divided by the total number of tallies in the matrix represents the percentage of observation time in which the class is engaged in the type of activity represented by the area of interest. As indicated above, hundreds of verbal interaction variables can be operationalized by calculating the percentage of class time spent in various areas of the matrix. For example, the percentage of tallies in the (4, 6_1) and (6_1, 4) cells combined gives an indication of proportion of time used to drill black students. That is, the teacher asks a question, black students respond, another teacher question, etc. In a like manner variables such as student acceptance of other student ideas, teacher rejection of student ideas, and classroom rebellion can be measured.

Some of the variables of primary interest in this study were: i/d ratio--ratio of percentage of time teacher spends accepting student feelings, praising students, and accepting student ideas to percentage of time spent giving directions, criticizing students, or justifying teacher authority; student talk--percentage of time in which students are talking; vicious circle--percentage of time in which the teacher follows the giving of directions with criticisms of students, follows criticisms with more directions, more criticisms, more directions, etc.; rebellion--percentage of time in which students do not comply with teacher directions and criticisms; drill--percentage of time during which teacher asks questions, students respond, more questions, etc.; sustained expansive activity--percentage of time in which the teacher is engaged in sus-

tained acceptance of student feelings, praise of students or acceptance of student ideas; reinforcement--percentage of time in which student responses are reinforced (e.g. followed by teacher praise, encouragement, support); restrictive feedback--percentage of time in which student responses are followed by teacher criticisms and general restrictive activity. These and other variables were analyzed for all students combined, for black and white students separately, and further partitioned by grade level and classroom composition. Other behaviors examined included the nature and extent of verbal interaction patterns between and among black and white students. A complete list of all verbal interaction variables studied is shown in Table 2. Areas of the matrix referred to under the "operational definition" column of Table 2 are shown in Figure 2.

The use of a behavior classification system to evaluate an outcome of desegregation constitutes a new approach to such evaluations. The technique appears to be solid in that it measures those factors most likely to be influenced immediately by changes in racial composition of classes. If desegregation accomplishes anything, either positive or negative, it should show up on some of the behavioral measures. In this respect the study is quite different from other efforts based solely on student achievement and racial attitudes. Hopefully, the study will provide hard behavioral data which may have a profound influence on the nature of desegregation plans in Kalamazoo as well as across the entire nation. Another benefit of this behavioral feedback is that it will likely prove to be of value to teachers as an in-service device for helping them to improve the nature of classroom verbal interaction patterns.

Student Reactions--A strong case can be made for the importance of student reactions to the teacher, the class, and to each other. A number of behavioral science researchers have conducted studies which support the contention that persons pay more attention to, are more influenced by, have more respect for, and learn more from other persons (teachers) whom they perceive as being competent, enthusiastic, and sincere. Furthermore, studies indicate that students have

Table 2

VERBAL INTERACTION VARIABLES STUDIED

Variable Number	Name	Definition
1	Sustained acceptance	Theoretical: percentage of time in which the teacher engages in sustained acceptance of student ideas, expands on student ideas, praises or encourages pupil behavior Operational: percentage of tallies in (5,5) cell *
2	Vicious circle	Theoretical: percentage of time in which the teacher follows the giving of directions with student criticisms, followed by more directions, more criticisms, etc., or engages in sustained giving of directions or criticisms (denoted as area 2) Operational: percentage of tallies in (1,1), (1,2), (2,1), (2,2) cells
3	Lecture	Theoretical: percentage of time in which teacher transmits information related to subject matter Operational: percentage of tallies in column 3
4	i/d Ratio	Theoretical: ratio of percentage of time teacher spends accepting student feelings, praising students, and accepting student ideas to time spent giving directions, criticizing students or justifying teacher authority Operational: $\frac{\text{tallies in column 5}}{\text{tallies in columns 1, 2, \& 5}}$

* All operational definitions are based on the numbered areas in Figure 2 entitled, "Pictorial Operational Definitions."

Table 2 (Continued)

Variable Number	Name	Definition
5	Confusion	Theoretical: percentage of time during which communication cannot be understood by observer (denoted as area 1) Operational: percentage of tallies in column 8
6	Black rebellion	Theoretical: percentage of non-complying student response to teacher direction or criticism which is black Operational: $\frac{\text{tallies in area 6}}{\text{tallies in areas 6 \& 7}}$
7	White rebellion	Theoretical: percentage of non-complying student response to teacher direction or criticism which is white Operational: $\frac{\text{tallies in area 7}}{\text{tallies in areas 6 \& 7}}$
8	Rebellion	Theoretical: percentage of non-complying student response to teacher direction or criticism Operational: percentage of tallies in areas 6 & 7
9	Drill involving black students	Theoretical: percentage of drill (teacher question followed by black student response, more teacher questions, more black student response, etc.) which involves black students Operational: $\frac{\text{tallies in area 9}}{\text{tallies in areas 9 \& 10}}$

Table 2 (Continued)

Variable Number	Name	Definitions
10	Drill involving white students	Theoretical: percentage of drill (teacher question followed by white student response, more teacher question, more white student response, etc.) which involves white students Operational: $\frac{\text{tallies in area 10}}{\text{tallies in areas 9 \& 10}}$
11	Drill	Theoretical: percentage of drill (teacher question followed by student response, more teacher question, more student response, etc.) Operational: percentage of tallies in areas 9 & 10
12	Black response	Theoretical: percentage of student conforming response to teacher idea or question which is black Operational: $\frac{\text{tallies in column } 6_1}{\text{tallies in columns } 6_1 \text{ \& } 7_1}$
13	Black initiated talk	Theoretical: percentage of student initiated expression of own ideas, thoughts, or concerns which is black Operational: $\frac{\text{tallies in column } 6_2}{\text{tallies in columns } 6_2 \text{ \& } 7_2}$
14	Black derogatory talk	Theoretical: percentage of student response to teacher or fellow student which is rude, disrespectful, or insulting engaged in by blacks Operational: $\frac{\text{tallies in column } 6_3}{\text{tallies in columns } 6_3 \text{ \& } 7_3}$

Table 2 (Continued)

Variable Number	Name	Definition
15	Black nonderogatory talk	Theoretical: percentage of nonderogatory student talk which is black Operational: $\frac{\text{tallies in columns } 6_1 \text{ \& } 6_2}{\text{tallies in columns } 6_1, 6_2, 7_1, \text{ \& } 7_2}$
16	Black talk	Theoretical: percentage of student talk which is black Operational: $\frac{\text{tallies in columns } 6_1, 6_2, \text{ \& } 6_3}{\text{tallies in columns } 6_1, 6_2, 6_3, 7_1, 7_2, \& 7_3}$
17	White response	Theoretical: percentage of student conforming response to teacher idea or question which is white Operational: $\frac{\text{tallies in column } 7_1}{\text{tallies in columns } 6_1 \text{ \& } 7_1}$
18	White initiated talk	Theoretical: student initiated expression of own ideas, thoughts, or concerns which is white Operational: $\frac{\text{tallies in column } 7_2}{\text{tallies in columns } 6_2 \& 7_2}$
19	White derogatory talk	Theoretical: student response to teacher or fellow student which is rude, disrespectful, or insulting engaged in by whites Operational: $\frac{\text{tallies in column } 7_3}{\text{tallies in columns } 6_3 \& 7_3}$
20	White nonderogatory talk	Theoretical: percentage of nonderogatory student talk which is white Operational: $\frac{\text{tallies in columns } 7_1 \text{ \& } 7_2}{\text{tallies in columns } 6_1, 6_2, 7_1, \text{ \& } 7_2}$

Table 2 (Continued)

Variable Number	Name	Definition
21	White talk	Theoretical: percentage of student talk which is white Operational: $\frac{\text{tallies in columns } 7_1, 7_2 \text{ \& } 7_3}{\text{tallies in columns } 6_1, 6_2, 6_3, 7_1, 7_2, \text{ \& } 7_3}$
22	Student response	Theoretical: student conforming response to teacher idea or question Operational: percentage of tallies in columns 6_1 & 7_1
23	Student initiated talk	Theoretical: student initiated expression of own ideas, thoughts, or concerns Operational: percentage of tallies in columns 6_2 & 7_2
24	Student derogatory talk	Theoretical: student response to teacher or fellow student which is rude, disrespectful, or insulting Operational: percentage of tallies in columns 6_3 & 7_3
25	Student nonderogatory talk	Theoretical: student talk which is not derogatory Operational: percentage of tallies in columns 6_1, 6_2, 7_1, & 7_2
26	Student talk	Theoretical: students are talking Operational: percentage of tallies in columns 6_1, 6_2, 6_3, 7_1, 7_2, & 7_3
27	Restrictive teacher feedback to nonderogatory black talk	Theoretical: percentage of restrictive teacher feedback (directions and criticisms) to nonderogatory student talk which is aimed at nonderogatory black student talk Operational: $\frac{\text{tallies in area 20}}{\text{tallies in area 20 \& 21}}$

Table 2 (Continued)

Variable Number	Name	Definition
28	Restrictive teacher feedback to nonderogatory white talk	Theoretical: percentage of restrictive teacher feedback to nonderogatory student talk which is aimed at nonderogatory white student talk Operational: $\frac{\text{tallies in area 21}}{\text{tallies in areas 21 \& 21}}$
29	Restrictive teacher feedback to derogatory black talk	Theoretical: percentage of restictive teacher feedback to derogatory student talk which is aimed at derogatory black student talk Operational: $\frac{\text{tallies in area 24}}{\text{tallies in areas 24 \& 25}}$
30	Restrictive teacher feedback to derogatory white talk	Theoretical: percentage of restrictive teacher feedback to derogatory student talk which is aimed at derogatory white talk Operational: $\frac{\text{tallies in area 25}}{\text{tallies areas 24 \& 25}}$
31	Teacher acceptance of nonderogatory black talk	Theoretical: percentage of teacher acceptance (praises, encourages, expands on student ideas) of nonderogatory student talk which is aimed at nonderogatory black student talk Operational: $\frac{\text{tallies in area 22}}{\text{tallies in areas 22 \& 23}}$
32	Teacher acceptance of nonderogatory white talk	Theoretical: percentage of teacher acceptance of nonderogatory student talk which is aimed at nonderogatory white student talk Operational: $\frac{\text{talles in area 23}}{\text{tallies in areas 22 \& 23}}$

Table 2 (Continued)

Variable Number	Name	Definition
33	Teacher acceptance of derogatory black talk	Theoretical: percentage of teacher acceptance of derogatory student talk which is aimed at derogatory black student talk Operational: $\frac{\text{tallies in area 26}}{\text{tallies in areas 26 \& 27}}$
34	Teacher acceptance of derogatory white talk	Theoretical: percentage of teacher acceptance of derogatory student talk which is aimed at derogatory white student talk Operational: $\frac{\text{tallies in area 27}}{\text{tallies in areas 26 \& 27}}$
35	Restrictive teacher feedback to nonderogatory student talk	Theoretical: percentage of restrictive teacher feedback to nonderogatory student talk Operational: percentage of tallies in areas 20 & 21
36	Restrictive teacher feedback to derogatory student talk	Theoretical: percentage of restrictive teacher feedback to derogatory student talk Operational: percentage of tallies in areas 24 & 25
37	Teacher acceptance of nonderogatory student talk	Theoretical: percentage of teacher acceptance of nonderogatory student talk Operational: percentage of tallies in areas 22 & 23
38	Teacher acceptance of derogatory student talk	Theoretical: percentage of teacher acceptance of derogatory student talk Operational: percentage of tallies in areas 26 & 27

Table 2 (Continued)

Variable Number	Name	Definition
39	Nonderogatory black response to nonderogatory black talk	Theoretical: percentage of nonderogatory black response to nonderogatory student talk which is aimed at nonderogatory black talk Operational: $\frac{\text{tallies in area 39}}{\text{tallies in areas 39 \& 40}}$
40	Nonderogatory black response to nonderogatory white talk	Theoretical: percentage of nonderogatory black response to nonderogatory student talk which is aimed at nonderogatory white talk Operational: $\frac{\text{tallies in area 40}}{\text{tallies in area 39 \& 40}}$
41	Nonderogatory white response to nonderogatory white talk	Theoretical: percentage of nonderogatory white response to nonderogatory student talk which is aimed at nonderogatory white talk Operational: $\frac{\text{tallies in area 41}}{\text{tallies in areas 41 \& 42}}$
42	Nonderogatory white response to nonderogatory black talk	Theoretical: percentage of nonderogatory white response to nonderogatory student talk which is aimed at nonderogatory black talk Operational: $\frac{\text{tallies in area 42}}{\text{tallies in areas 41 \& 42}}$
43	Nonderogatory student response to nonderogatory student talk	Theoretical: percentage of nonderogatory student response to nonderogatory student talk Operational: percentage of tallies in areas 39, 40, 41, & 42

Table 2 (Continued)

Variable Number	Name	Definition
44	Nonderogatory black response to derogatory black talk	Theoretical: percentage of nonderogatory black response to derogatory student talk which is aimed at derogatory black talk Operational: $\frac{\text{tallies in area 43}}{\text{tallies in areas 43 \& 44}}$
45	Nonderogatory black response to derogatory white talk	Theoretical: percentage of nonderogatory black response to derogatory student talk which is aimed at derogatory white talk Operational: $\frac{\text{tallies in area 44}}{\text{tallies in areas 43 \& 44}}$
46	Nonderogatory white response to derogatory white talk	Theoretical: percentage of nonderogatory white response to derogatory student talk which is aimed at derogatory white talk Operational: $\frac{\text{tallies in area 46}}{\text{tallies in areas 45 \& 46}}$
47	Nonderogatory white response to derogatory black talk	Theoretical: percentage of nonderogatory white response to derogatory student talk which is aimed at derogatory black talk Operational: $\frac{\text{tallies in area 45}}{\text{tallies in areas 45 \& 46}}$
48	Nonderogatory student response to derogatory student response	Theoretical: percentage of nonderogatory student response to derogatory student response Operational: percentage of tallies in areas 43, 44, 45, & 46

Table 2 (Continued)

Variable Number	Name	Definition
49	Derogatory black response to nonderogatory black talk	Theoretical: percentage of derogatory black response to nonderogatory student talk which is aimed at nonderogatory black talk Operational: $\frac{\text{tallies in area 50}}{\text{tallies in areas 50 \& 51}}$
50	Derogatory black response to nonderogatory white talk	Theoretical: percentage of derogatory black response to nonderogatory student talk which is aimed at nonderogatory white talk Operational: $\frac{\text{tallies in area 51}}{\text{tallies in areas 50 \& 51}}$
51	Derogatory white response to nonderogatory white talk	Theoretical: percentage of derogatory white response to nonderogatory student talk which is aimed at nonderogatory white talk Operational: $\frac{\text{tallies in area 53}}{\text{tallies in areas 52 \& 53}}$
52	Derogatory white response to nonderogatory black talk	Theoretical: percentage of derogatory white response to nonderogatory student talk which is aimed at nonderogatory black talk Operational: $\frac{\text{tallies in area 52}}{\text{tallies in areas 52 \& 53}}$
53	Derogatory student response to nonderogatory student talk	Theoretical: percentage of derogatory student response to nonderogatory student talk Operational: percentage of tallies in areas 50, 51, 52, & 53

Table 2 (Continued)

Variable Number	Name	Definition
54	Derogatory black response to derogatory black talk	Theoretical: percentage of derogatory black response to derogatory student talk which is aimed at derogatory black talk Operational: tallies in area 54 / tallies in areas 54 & 55
55	Derogatory black response to derogatory white talk	Theoretical: percentage of derogatory black response to derogatory student talk which is aimed at derogatory white talk Operational: tallies in area 55 / tallies in areas 54 & 55
56	Derogatory white response to derogatory white talk	Theoretical: percentage of derogatory white response to derogatory student talk which is aimed at derogatory white talk Operational: tallies in area 57 / tallies in areas 56 & 57
57	Derogatory white response to derogatory black talk	Theoretical: percentage of derogatory white response to derogatory student talk which is aimed at derogatory black talk Operational: tallies in area 56 / tallies in areas 56 & 57
58	Derogatory student response to derogatory student talk	Theoretical: percentage of derogatory student response to derogatory student talk Operational: percentage of tallies in areas 54, 55, 56, & 57

Table 2 (Continued)

Variable Number	Name	Definition
59	Sustained white student initiated talk	Theoretical: percentage of sustained student initiated which is white Operational: $\frac{\text{tallies in cell } (7_2, 7_2)}{\text{tallies in cells } (6_2, 6_2) \text{ \& } (7_2, 7_2)}$
60	Sustained black student initiated talk	Theoretical: percentage of sustained student initiated talk which is black Operational: tallies in cell $(6_2, 6_2)$ tallies in cells $(6_2, 6_2)$ & $(7_2, 7_2)$
61	Sustained acceptance	Theoretical: percentage of time in which teacher accepts, expands on, praises, or encourages student ideas Operational: percentage of tallies in the (5,5) cell

			TEACHER TALK					STUDENT TALK						
								Black 6			White 7			
			Criticism 1	Directions 2	Lecture 3	Questions 4	Acceptance 5	Response 6_1	Initiation 6_2	Derogatory 6_3	Response 7_1	Initiation 7_2	Derogatory 7_3	Confusion 8
TEACHER TALK		Criticism 1												
		Directions 2												
		Lecture 3												
		Questions 4												
		Acceptance 5												
STUDENT TALK	Black 6	Response 6_1												
		Initiation 6_2												
		Derogatory 6_3												
	White 7	Response 7_1												
		Initiation 7_2												
		Derogatory 7_3												
		Confusion 8												

Figure 2

Pictorial Operational Definitions

higher regard for themselves, their teachers, the school, and the subject in classrooms where they feel free to participate and initiate their own ideas than where they feel restricted. Student feelings and perceptions regarding important characteristics of teachers and the general classroom environment were determined by using a modification of the Teacher Image Questionnaire, developed by the Educator Feedback Center, Western Michigan University, for secondary students and a simplified version of the questionnaire for elementary students. The modification consisted of some rewording to facilitate communication and of adding a few items similar to those used in the Cooper Smith Self Esteem Inventory and the Wiley Self Concept Scale. The validity and reliability of questionnaire items have been demonstrated by the Educator Feedback Center which has used the instrument in hundreds of classroom analyses. Copies of the Elementary Student Opinion Questionnaire and of the Secondary Student Opinion Questionnaire are presented on the following two pages. At the elementary level, trained observers helped students respond by reading each item to the class, answering questions, and in general helping the children understand the questions. These questionnaires and the Behavior Classification System shown in Table 1 are presented as pages of the main body of the report rather than in the appendix because of their extreme importance in terms of understanding and interpreting the findings reported below.

Teacher Perceptions--In an attempt to determine if racial composition based on existing neighborhood housing patterns affected the role stress which teachers felt on the job, the Teacher Opinion Questionnaire was developed and administered to cooperating teachers. This questionnaire was designed to measure "role stress" and was based on the works of Swanson (1971), Smith (1969), and Coats (1971). Lack of role stress is interpreted as relative satisfaction. The questionnaire measures role stress with respect to building principal, teaching as a job, and students. Role stress was operationally defined as the arithmetic difference between a teacher's view of a "reasonable expectation" compared

ELEMENTARY STUDENT OPINION QUESTIONNAIRE

This is not a test because there are no right or wrong answers. We want to find out how you feel about school. Think about the whole year when you mark your answer. No one from your school will see your answers. DO NOT WRITE YOUR NAME. FOLLOW THE DIRECTIONS.

Code

N = NEVER
L = LITTLE OF THE TIME
S = SOMETIMES
M = MOST OF THE TIME
A = ALWAYS

Examples		Never	Little	Some	Most	Alway
A.	Do you think you should have school on Saturdays?	N	L	S	M	A
B.	Boys talk more than girls.	N	L	S	M	A
QUESTIONS						
1.	Do you understand what your teacher says when she talks to you? (Like when she explains things)	N	L	S	M	A
2.	Is your teacher fair?	N	L	S	M	A
3.	Do the kids in your class behave?	N	L	S	M	A
4.	Does your teacher like you?	N	L	S	M	A
5.	Is your class fun?	N	L	S	M	A
6.	Does your teacher think what you say is important?	N	L	S	M	A
7.	Does your teacher want you to ask questions and give your ideas in class?	N	L	S	M	A
8.	Is it okay if your idea is different from your teacher's idea?	N	L	S	M	A
9.	Does your teacher get angry when little problems come up in class?	N	L	S	M	A
10.	Do you feel free to tell your ideas in class?	N	L	S	M	A
11.	Do you like to be called on in this class?	N	L	S	M	A
12.	Do you feel like you learn a lot in your class?	N	L	S	M	A
13.	Do you worry about other students picking on you?	N	L	S	M	A
14.	Do you like your teacher?	N	L	S	M	A
15.	Do you like your school?	N	L	S	M	A
16.	Are the children in your class friendly?	N	L	S	M	A

SECONDARY STUDENT OPINION QUESTIONNAIRE

This is not a test because there are no right or wrong answers. We are interested in your opinion about this class and school based upon the whole year. No one in your school will see your answers... DO NOT WRITE YOUR NAME. Follow the directions.

Directions: Think about the entire school year. Using the code shown to the right, circle the letter that best tells how you feel about each question. After everyone is finished, the papers will be collected.

Code
N = Never
L = Little of the time
S = Sometimes
M = Most of the time
A = Always

		Never	Little	Some	Most	Always
1.	Are the ideas presented at a level you can understand?	N	L	S	M	A
2.	Is this teacher fair and impartial in his treatment of all students in the class?	N	L	S	M	A
3.	Is this classroom orderly but also relaxed and friendly?	N	L	S	M	A
4.	Do you feel that this teacher likes you?	N	L	S	M	A
5.	Is this class interesting and challenging?	N	L	S	M	A
6.	Does this teacher have respect for the things you say in class?	N	L	S	M	A
7.	Does this teacher encourage you to raise questions and express ideas in class?	N	L	S	M	A
8.	Is this teacher able to see things from your point of view?	N	L	S	M	A
9.	Does this teacher become angry when little problems arise in the classroom?	N	L	S	M	A
10.	Do you feel free to give your own ideas and express your own opinions in this class?	N	L	S	M	A
11.	Do you like to be called on in this class?	N	L	S	M	A
13.	Do you feel like you learn a lot in this class?	N	L	S	M	A
14.	Do you like most of your teachers?	N	L	S	M	A
15.	Do you like this school?	N	L	S	M	A
16.	Are the students in this school friendly?	N	L	S	M	A

with the "actual situation" for a particular component of his job. For example, when asked to relate the degree to which his teaching job is "boring" a teacher may respond that it is quite boring but also that he would expect it to be so because of the nature of the job. In this case, there would be no role stress on that component even though the job was rated as quite boring. On the other hand, a teacher may respond that "the principal asks my advice" seldom occurs and indicate that in terms of reasonable expectations, such a practice should always occur. In this case one would find extreme role stress even though the absolute rating of "asks my advice" was not as low as the rating on boredom. Teachers also responded to the Elementary Student Opinion Questionnaire and the Secondary Student Opinion Questionnaire as they thought their students would respond. Their teacher perceptions were then related to classroom racial composition and also correlated with student responses to allow for the determination of congruence between teacher and student perceptions.

Sample

Three criteria were used to select classrooms for the study. These criteria were: (1) the teacher had tenure, (2) students were heterogeneously assigned to classrooms with respect to ability, and (3) students were in a grade level which would be affected by the proposed desegregation plan. The decision to restrict the study to classrooms with tenured teachers was due to teacher anxiety created by a public statement to the effect that all non-tenured teachers were to be dismissed if a pending millage vote failed. It was believed that the presence of observers in classrooms of probationary teachers would add to their existing anxiety. Only heterogeneously grouped classrooms were studied because many classrooms homogeneously grouped on ability criteria would be unchanged by the proposed desegregation plan. For example, advanced placement math classes containing 98% white students would most likely contain 98% white students after desegregation. The third criterion regarding grade level

was adhered to because at the secondary level only the seventh and tenth grades were to be involved in the desegregation plan, whereas the eighth, ninth, eleventh, and twelfth grades were to be placed on a voluntary desegregation basis. Given these criteria our sample exhausted all eligible classrooms at the second, fourth, seventh, and tenth grade levels. The sample consisted of 32 second grades, 34 fourth grades, 20 seventh grades, and 14 tenth grades which gave us a total of 100 classrooms representing a meaningful cross section of Kalamazoo schools. In two instances it was necessary to use non-tenured teachers which created no problems due to the willingness of these teachers to participate in the study. Table 3 displays the composition of the classrooms in the sample with respect to grade level and the primary partitioning (all white, majority white, majority black) used in subsequent analyses.

Procedures

The writer, with the help of four graduate students having considerable school teaching and administrative experience, trained 25 observers to collect the necessary classroom data. These observers represented a cross section of the community in terms of race, sex, age, and philosophy, although such representativeness on the part of the observers was not crucial to the objectivity of the study in that the behavior classification system was designed so that it, rather than the personal philosophies of the observers, determined the manner in which observers reacted to various verbal statements.

On June 7 and 8 two full days of intensive training in the use of the behavior classification system shown above in Table 1 was given to the 25 observers. This training involved the progressive use of audio and video tapes of classrooms concluding with one-half day during which all observers collected data on the same real classroom situation. By the end of the two days of training the observers had achieved acceptable inter-observer reliability in the use of the behavior classification system. Observers were given additional training

Table 3

DESCRIPTION OF CLASSROOMS IN SAMPLE

Grade Level	All White	Majority White	Majority Black	Total # of Classrooms	Total # of Students	% Black Students	% White Students
2	13	13	6	32	765	19.59	80.41
4	18	9	4	31	669	14.49	85.51
7	7	13	0	20	457	12.03	87.97
10	3	11	0	14	462	9.09	90.91

in terms of relating with teachers in the study and administering other questionnaires. Throughout the data collection observers met with the research assistants and the writer to solve various difficulties. Some of the handouts used with observers during the training sessions and later are shown in the appendix with accompanying narrative.

Each observer was paid $3 per hour for a total of 50 hours to be spread out over a two-week period. Twelve of the 50 hours were used for the two days of training which left 38 hours for classroom observation. Each observer was assigned four classrooms and asked to try to obtain about seven hours of observation during those times when the classroom was in some type of group learning mode. This procedure allowed for a cushion of about ten hours per observer for purposes of administering the student opinion questionnaire, travelling between classes, and "biding" time while classrooms were not in a group learning mode. To minimize this waste of time, teachers were asked to inform observers of those times during which no verbal interaction between teachers and pupils or among pupils would occur. Examples of such times are: recess, movies, and quiet studying. The objective of achieving a maximum of seven hours of interaction analysis data per classroom was achieved in most cases although in one classroom as little as one-half hour of observation was made.

On Friday, June 18, observers administered the elementary and secondary student opinion questionnaires. A letter explaining the purpose of the questionnaires was shown to teachers by the questionnaire monitor. (A copy of this letter is shown in Appendix B.) Monitors also read a sheet of instructions to students and gave special help to students at the elementary level by "walking through" each questionnaire item with the students. (A copy of the instructions for completing the questionnaires is also shown in Appendix C.) On succeeding weeks the four research assistants obtained additional reactions from teachers and administrators on several questionnaires. Questionnaires to which teachers

responded were the Teacher Opinion Questionnaire, the Administrator Image Questionnaire, and the Student Opinion Questionnaire. The administrators responded only to the Student Opinion Questionnaire and the Administrator Image Questionnaire. On the Student Opinion Questionnaire teachers were asked to estimate how they thought the class would answer the questions and the administrator was asked to respond from the same point of view. Copies of the questionnaires, not shown in the main body, are in the appendix.

Interaction analysis data and responses by all groups to all questionnaires were transformed to IBM punched cards. This conversion required approximately 400 hours. Data analyses were performed by Mr. Charles Townsend who wrote a number of special purpose programs for purposes of processing the data on the PDP-10 computer systems at Western Michigan University. Analyses involved the use of one-way analysis of variance, t-ratios, and product-moment coefficients of correlation. The specific analyses used and corresponding comparisons made are discussed in more detail in the following section.

There were some procedural problems which are mentioned here with the hope that these could be eliminated in similar future studies. The major problem resulted from the fact that, in an attempt to salvage baseline data on the operating neighborhood school concept, it was necessary to conduct the study during two of the last three weeks of the academic year. Although the study was well designed from a research point of view, this poor timing made it difficult to communicate effectively the objectives of the study at all levels. Hence, there was some legitimate initial resistance from teachers who simply were not aware of the research objectives. After touching bases with all teachers through individual and/or group meetings, this resistance subsided, and there was extremely good cooperation from 95% of the teachers involved in the study. Furthermore, the last three weeks of the school year might understandably involve less meaningful teaching-learning situations than at another time in the year. This proved to be a serious problem since the behavior

classification system was based on teaching-learning situations where the majority of the class, including the teacher, is in a group setting where the teacher is talking or interacting with students. One other problem resulted from the fact that two of the 25 observers proved to be undependable and created poor relations with teachers.

Chapter III

Results

The results are presented as they relate to each of the seven major questions posed above. Each question was investigated by conducting many subanalyses for all students combined and for black and white students separately at both the elementary and secondary levels. Of necessity this chapter has a heavy statistical orientation. It should be of special interest to those readers who wish to follow the statistical rationale for subsequent conclusions and recommendations. An attempt has been made in the final chapter to present a summary of the report in non-statistical terms.

Verbal Interaction Patterns

The primary analyses for this study consisted of determining the relation between verbal interaction patterns and racial composition based on the neighborhood school concept. Verbal interaction patterns involved entire classrooms and are indicated by variables 1, 2, 3, 4, 5, 8, 11, 22, 23, 24, 25, 26, 35, 36, 37, 38, 43, 48, 53, 58, and 61 defined in Table 2. These variables were considered in studying Question 1:

> Do classroom verbal interaction patterns vary with racial composition based on the neighborhood school concept?

The remaining verbal interaction variables 6, 9, 12, 13, 14, 15, 16, 27, 29, 31, 33, 39, 42, 44, 47, 49, 52, 54, 57, and 60 relate to patterns of communication based on a black-white dichotomy. The study of these variables was necessary to investigate Question 2:

> Do classroom verbal interaction patterns involving black students differ from those involving white students?

Results of investigating Questions 1 and 2 are presented below for the elementary level first followed by results for the secondary level.

Elementary Level--To study Question 1 for the elementary level the sample of 32 second and 31 fourth grade classrooms was combined into 63 classrooms constituting the elementary level. This total sample of elementary classrooms was then partitioned into three levels: all white, majority white, and majority black as shown in Figure 3.

All White	All Black	Majority Black
X_1	Y_1	Z_1
X_2	Y_2	Z_2
X_3	Y_3	Z_3
.	.	.
.	.	.
.	.	.
X_{31}	Y_{22}	Z_{10}

Figure 3

Partition of Sample for Primary Verbal Interaction Analyses

The letters X, Y, and Z shown in the figure should be thought of as representing values on verbal interaction variables. If Variable 1 (sustained acceptance) were being studied as it related to racial composition, each X would represent the level of sustained acceptance for each of the 31 all white classrooms. Each Y would represent the level of sustained acceptance for each of the 32 majority white classrooms, and each Z would represent the level of sustained acceptance in each of the 10 majority black classrooms. Analysis of variance models were used on partitions of this type for each verbal interaction variable studied to determine if the means of the three groups were more different than one would expect them to be by chance. When Variable 2 (vicious circle) was studied, the partition was treated in exactly the same way. That is, the X values represented the percentage of time spent in the vicious circle in all white class-

rooms, and so forth. All of the interaction analysis variables based on measures of the entire classroom were studied in this manner.

All black classrooms were not considered as a separate category because there were too few in the study. Also, teacher race was not considered as a separate variable, since in all cases it would have violated the anonyminity of black teachers.

Table 4 shows the results of using a 1 x 3 analysis of variance model to determine the relationship between three levels (white, majority white, and majority black) of classroom racial composition based on the neighborhood school concept and 21 variables describing verbal interaction patterns for entire classrooms. The mean values shown give the percentage of time spent in each of the categories described by the variable name. The value 26.8 indicates that teachers lectured 26.8% of the time in all white classrooms; the value 41.4 indicates that students talked 41.4% of the time in all white classrooms, etc. For several of the variables investigated no activity was observed. An example was Variable 38 (teacher acceptance of derogatory student talk). This simply did not occur in the classrooms observed.

The F values shown are helpful in making decisions about the significance of differences among group means for each of the variables studied. A statistically significant result at the .05 level indicates that one would expect to observe differences between means as large as those observed less than five times in 100 by chance if there really was no difference. The same interpretation applies for the .01 level except that one would expect to see differences significant to the .01 level less than one time in 100 by chance. In all tables results which are statistically significant at the .05 level are denoted by a single asterisk (*), while those significant at the .01 level are denoted by a double asterisk (**). Levels of statistical significance should be interpreted in a like manner for all analyses in the report.

Table 4

CLASSROOM INTERACTION ANALYSIS COMPARISONS FOR ELEMENTARY

Variable Number	Variable Name	Classroom Racial Composition: All White	Majority White	Majority Black	F
1	Sustained acceptance	.83	.51	1.45	1.6
2	Vicious circle	6.88	6.42	8.60	.9
3	Lecture	26.81	29.50	32.76	.8
4	i/d	2.30	.19	.32	1.9
5	Confusion	1.71	2.22	2.66	.4
8	Rebellion	1.38	1.15	.18	1.9
11	Drill	10.93	12.22	7.59	2.1
22	Student response	27.32	26.39	26.84	.04
23	Student initiated talk	14.05	14.92	12.58	.3
24	Student derogatory talk	.07	.06	.19	1.8
25	Student nonderogatory talk	41.38	41.30	39.42	.2
26	Student talk	41.45	41.37	39.61	.2
35	Restrictive teacher feedback to nonderogatory student talk	2.73	2.74	.80	2.3
36	Restrictive teacher feedback to derogatory student talk	.01	.02	.00	.7
37	Teacher acceptance of nonderogatory student talk	2.53	1.89	1.65	1.7
38	Teacher acceptance of derogatory talk				
43	Nonderogatory student response to nonderogatory student talk	26.80	26.75	30.62	.8
48	Nonderogatory student response to derogatory student response	.003	.004	.07	2.1

Table 4 (continued)

Variable Number	Variable Name	Classroom Racial Composition: All White	Majority White	Majority Black	F
53	Derogatory student response to nonderogatory student talk	.006	.00	.07	2.1
58	Derogatory Student response to derogatory student talk	.009	.009	.08	4.7*
61	Sustained student talk	8.43	9.77	8.99	.3

*statistically significant at .05 level

In Table 4 a value of 3.2 was required for statistical significance at the .05 level, and a value of 4.9 was required for statistical significance at the .01 level. As the table suggests, there was no significant relation between racial composition and any of the classroom verbal interaction patterns studied with the exception of Variable 58 (derogatory student response to derogatory student talk), and this does not merit serious consideration because it involved less than .08% of classroom time in even the highest level. Students engaged in practically no sustained derogatory talk. It can safely be concluded that when verbal interaction patterns based on the entire classroom were studied, there were no meaningful differences at the elementary level which could be attributed to classroom racial composition.

The total absence of significant statistical differences was a very important finding in light of some popular contentions. It was believed by many that the majority black classrooms would be characterized by more introverted and passive student involvement in meaningful teaching-learning activity than all white or majority white classrooms. Assuming this to be true still others contended that the reason for the more introverted black student behavior was due to less teacher acceptance of student ideas in majority black classrooms. Both of these hunches were shown to be incorrect for the Kalamazoo situation. On the contrary, despite the lack of significant statistical findings, the directions of differences suggest that the opposite may be true. Teachers in the majority white classrooms were a little less accepting of student ideas and had slightly lower i/d ratios than did those in the majority black classrooms. Furthermore, student rebellion was a bit higher in white classrooms approaching, but not achieving, a level which was significantly different from that in majority black classrooms.

In conclusion, Table 4 strongly suggests that teachers used the same teaching model in all classrooms at the elementary level regardless of racial composition. In behavioral terms teachers were unbiased in the sense that they

behaved no differently in majority black classrooms than they did in majority white or all white classrooms. On the other hand, such uniform teaching models may have some serious limitations, since achievement in the majority black classrooms was lowest according to state assessment scores. Perhaps teachers should structure interaction patterns in majority black classrooms which are different from those in majority white or all white classrooms. More is said about this later.

It was necessary to investigate the black-white verbal interaction variables, relating to Question 2, by using a z-ratio based on the binomial distribution instead of the F ratio, because of the direct influence of racial composition on these variables. For example, if analysis of variance had been used for Variable 16 (black student talk) the differences between the three groups would have been statistically significant almost by definition, since as the percentage of black students increased the percentage of black talk likely would have increased. The z-ratio made it possible to compare the amount of observed black activity on different factors with the amount which would have been expected by chance due to the percentage of blacks. The percentage of black activity expected on a variable was estimated as the percentage of blacks in a classroom. If a classroom was 40% black it was expected that 40% of various kinds of student talk would be black. The observed percentage was then compared to this expected percentage using z-ratios. Variables analyzed in this manner at the elementary level are listed in Table 5 with corresponding means and z-ratio comparisons. Data for related verbal interaction patterns involving whites were revealed by these z-ratio analyses, because the percentage of white activity was always equal to one minus the percentage of black activity for a particular variable, and the z-ratios were always of the same magnitude but in the opposite direction. Therefore, it was unnecessary to conduct separate analyses for white verbal interaction patterns.

Although racial composition was unrelated to overall classroom interaction patterns, Table 5 points out several significant relationships at the elementary

Table 5

INTERACTION ANALYSIS DATA FOR BLACK STUDENTS AT ELEMENTARY LEVEL

Variable Number	Variable Name	% Observed	% Expected	z
6	Black rebellion	12.0	19.1	-1.43
9	Drill involving black students	15.7	19.1	.68
12	Black response	17.5	19.1	.32
13	Black initiated talk	23.4	19.1	.86
14	Black derogatory talk	7.9	19.1	-2.26*
15	Black nonderogatory talk	20.0	19.1	.18
16	Black talk	20.0	19.1	.18
27	Restrictive teacher feedback to nonderogatory black talk	15.6	19.1	.72
29	Restrictive teacher feedback to derogatory black talk	DID NOT OCCUR		
31	Teacher acceptance of nonderogatory black talk	13.5	19.1	-1.13
33	Teacher acceptance of derogatory black talk	DID NOT OCCUR		
39	Nonderogatory black response to nonderogatory black talk	49.0	19.1	6.02**
42	Nonderogatory white response to nonderogatory black talk	5.8	19.1	-2.69**
44	Nonderogatory black response to derogatory black talk	3.1	19.1	-3.22**
47	Nonderogatory white response to derogatory black talk	DID NOT OCCUR		

Table 5 (continued)

Variable Number	Variable Name	% Observed	% Expected	z
49	Derogatory black response to nonderogatory black talk	1.5	19.1	-3.54**
52	Derogatory white response to nonderogatory black talk	DID NOT OCCUR		
54	Derogatory black response to derogatory black talk	6.3	19.1	-2.58**
57	Derogatory white response to derogatory black talk	DID NOT OCCUR		
60	Sustained black student initiated talk	22.7	19.1	.72

*statistically significant at the .05 level

**statistically significant at the .01 level

level when black and white student talk were analyzed separately. Most of these significant differences related to some type of derogatory talk. In every case less derogatory black student talk was observed than would have been expected due to the ratio of black to white students. This means that more derogatory white talk was observed than would have been expected due to the percentage of white students.

The statistically significant negative scores for Variables 14, 44, 49, and 54 show less involvement by black students in these activities than one would expect. However, the percentages are so small when related to overall classroom verbal interaction patterns that these differences do not suggest black students engaged in a meaningful amount of less derogatory activity than did whites. On the other hand, Table 5 does demonstrate the inaccuracy of certain beliefs that black children engage in more derogatory talk than do whites. Analysis for Variable 39 (black response to black talk) shows that blacks were more actively involved in meaningful sustained verbal exchanges than would be expected based on the percentage of blacks. This finding seems to refute the charge that black students as a group engage in passive introverted behavior.

One other related question is worthy of some discussion here. Given that a black student is talking, who is more likely to respond to that talk--another black student or a white student? Analysis of Variable 42 suggests that whites were less likely to respond to blacks and that blacks were less likely to respond to whites than one would predict based on the ratio of blacks to whites. Of course, the converse is true in that whites were more likely to respond to whites and blacks to blacks than to members of the other race.

Secondary Level--This section presents results for Questions 1 and 2 at the secondary level. Data for the secondary classrooms were treated in exactly the same way as were data for the elementary classrooms with the exception that it was possible to consider only two levels of racial composition (all white and

majority white) instead of the three levels used at the elementary level to determine the relation between verbal interaction patterns and racial composition. At the secondary level there was no majority black classroom which met the three criteria listed above for inclusion in the study. Table 6 shows the means and F ratios for each verbal interaction variable based on measures of the overall classroom. Comparisons at the secondary level revealed quite different results than did those at the elementary level in that six differences were statistically significant.

In general the all white classrooms were characterized by less structure than were the mixed classrooms. Support for this statement comes from the higher mean values associated with the all white classrooms on Variable 5 (confusion), Variable 23 (student talk initiation), and Variable 61 (sustained student talk). Additional support comes from other comparisons which show that the mixed classrooms were characterized by significantly higher levels of drill (Variable 11) and more direct student response to teacher ideas and statements (Variable 22). These differences existed despite the fact that teachers were more accepting (Variable 37) of nonderogatory student talk in the mixed classrooms than they were in the all white classrooms.

One possible explanation for the obvious disparities between white and mixed classes is that teachers in mixed classes may have been more concerned about student discipline than those in all white classes. Teachers in mixed classrooms may have structured lessons and classroom environment in such a way as to minimize student to student interaction and student initiated ideas. Teachers in white classrooms, however, may have felt somewhat more confident in allowing students to express their own ideas and to verbally interact with fellow classmates. The fact that there was more confusion in white classrooms might be explained by the relatively informal atmosphere.

Table 7, which shows verbal interaction analyses based on black students, displays information directly related to Question 2 and also helpful in further

Table 6

CLASSROOM INTERACTION ANALYSIS COMPARISONS FOR SECONDARY

Variable Number	Variable Name	Classroom Racial Composition: All White	Majority White	Majority Black	F
1	Sustained acceptance	.31	.28	.0	.10
2	Vicious circle	5.24	6.03		.10
3	Lecture	49.94	42.06		.90
4	i/d	.23	.34		1.70
5	Confusion	3.85	1.30		10.19**
8	Rebellion	.85	1.72		1.70
11	Drill	4.44	9.26		8.64**
22	Student response	6.11	14.16		7.29**
23	Student initiated talk	22.71	14.78		4.71**
24	Student derogatory talk	.03	.04		.10
25	Student nonderogatory talk	28.82	28.94		.00
26	Student talk	28.85	28.98		.00
35	Restrictive teacher feedback to nonderogatory student talk	.91	3.41		3.50
36	Restrictive teacher feedback to derogatory student talk		DID NOT OCCUR		
37	Teacher acceptance of nonderogatory student talk	1.49	3.00		5.15**
38	Teacher acceptance of derogatory talk		DID NOT OCCUR		
43	Nonderogatory student response to nonderogatory student talk	19.21	12.82		2.80

Table 6 (continued)

Variable Number	Variable Name	Classroom Racial Composition: All White	Majority White	Majority Black	F
48	Nonderogatory student response to derogatory student response		DID NOT OCCUR		
53	Derogatory student response to nonderogatory student talk		DID NOT OCCUR		
58	Derogatory student response to derogatory student talk	.01	.00		.40
61	Sustained student talk	16.26	5.71		11.76**

**statistically significant at the .01 level

Table 7

INTERACTION ANALYSIS DATA FOR BLACK STUDENTS AT SECONDARY LEVEL

Variable Number	Variable Name	% Observed	% Expected	z
6	Black rebellion	13.3	12.9	.07
9	Drill involving black students	11.4	12.9	-0.26
12	Black response	13.5	12.9	.10
13	Black initiated talk	15.7	12.9	.49
14	Black derogatory talk	3.9	12.9	-1.57
15	Black nonderogatory talk	15.5	12.9	.45
16	Black talk	15.5	12.9	.46
27	Restrictive teacher feedback to nonderogatory black talk	14.4	12.9	.26
29	Restrictive teacher feedback to derogatory black talk	DID NOT OCCUR		
31	Teacher acceptance of nonderogatory black talk	10.9	12.9	-0.35
33	Teacher acceptance of derogatory black talk	DID NOT OCCUR		
39	Nonderogatory black response to nonderogatory black talk	47.2	12.9	5.96**
42	Nonderogatory white response to nonderogatory black talk	8.1	12.9	.83
44	Nonderogatory black response to derogatory black talk	DID NOT OCCUR		
47	Nonderogatory white response to derogatory black talk	DID NOT OCCUR		

Table 7 (continued)

Variable Number	Variable Name	% Observed	% Expected	z
49	Derogatory black response to nonderogatory black talk		DID NOT OCCUR	
52	Derogatory white response to nonderogatory black talk		DID NOT OCCUR	
54	Derogatory black response to derogatory black talk	2.9	12.9	-1.74
57	Derogatory white response to derogatory black talk		DID NOT OCCUR	
60	Sustained black student initiated talk	14.8	12.9	.34

**statistically significant at the .01 level

interpreting the nature of the relation between racial composition of classrooms at the secondary level and verbal interaction patterns. This table, as did Table 5 for the elementary level, compares the degree of observed black activity in various categories with the degree of activity which would have been expected based on the ratio of black to white students at the secondary level. When the percentage of blacks or whites was statistically controlled, only two of the variables shown in Table 7 revealed statistically significant relationships. Nonderogatory black response to nonderogatory black talk (Variable 39) was more prominent than would have been expected. This finding is consistent with the finding at the elementary level indicating that black students engaged in sustained nonderogatory verbal exchanges to a higher degree than one would expect based on the percentage of black students. It is interesting to note that for Variable 54 (derogatory black response to derogatory black talk) the finding suggests that black students actually engaged in less of this particular activity than would be expected by chance. Again, these two significant findings were just reversed with respect to white students.

Student Opinions

A second major objective of this study was to investigate student opinions as they related to racial composition of classrooms based on the neighborhood school concept and as they related to race. The specific questions asked were:

3. Do student reactions to teachers, to the school environment, and to each other vary with racial composition based on the neighborhood school concept?

4. Do reactions of black students toward teachers, the school environment, and each other differ from those of white students?

Question 3 was investigated by administering the Elementary Student Opinion Questionnaire to second and fourth grade students and administering the Secondary Student Opinion Questionnaire to the seventh and tenth grade students. Copies of these questionnaires were presented on Pages 26 and 27 of this report. For pur-

poses of analysis the classes were partitioned in exactly the same way as they were for comparisons based on the verbal interaction variables. That is, the elementary classes were studied separately from the secondary classes. Furthermore, the elementary classes were partitioned into the three levels consisting of all white, majority white, and majority black, and the secondary classrooms were partitioned into two levels consisting of all white and mixed or majority white for the same reasons presented for the verbal interaction variables. One primary reason for considering Question 3 was to determine if student opinions of certain classroom factors reflected the same differences as observed in actual behaviors reported above. The study of Question 4 was designed to supplement understanding of Question 3 by revealing the nature of differences between opinions of black and white students.

Elementary Level--Table 8 shows the average responses of elementary classrooms to each item on the Elementary Student Opinion Questionnaire and an average for all items combined. These average classroom responses are shown for all students combined as well as for black and white students separately for each of the three levels: all white, majority white, and majority black classrooms. Of course, it was impossible to study black student responses in all white classrooms. As Table 8 indicates when all students in a class were considered, regardless of race, only one item reflected a difference which could be attributed to racial composition. That item was number 16, "Are the children in your class friendly?". Children in all white classes viewed their classmates as being more friendly than did the children in the majority white or majority black classrooms.

When white responses were treated separately, differences on a few more items were revealed. White children in all white classrooms seemed to feel that their teacher liked them much better than did white children in majority white classrooms, who in turn thought their teacher liked them better than did white children in majority black classrooms. In a like manner, responses to Item 12 indicated that white children in all white classrooms thought they were learning more

Table 8

COMPARISONS ON ELEMENTARY STUDENT OPINION QUESTIONNAIRE

Item	Key Item Words	All Students				White Students				Black Students		
		W	MW	MB	F	W	MW	MB	F	MW	MB	F
1	Understand teacher	4.0	3.9	4.0	.10	3.9	3.9	4.0	.30	3.7	3.9	1.40
2	Teacher fair	4.3	4.3	4.0	2.60	4.3	4.3	4.0	1.50	4.2	4.0	.14
3	Kids behave	3.1	3.1	2.8	1.20	3.1	3.1	3.0	.24	3.0	2.9	.05
4	Teacher likes you	4.3	4.1	4.1	1.80	4.2	4.0	3.8	4.60*	4.3	4.2	.04
5	Class fun	3.9	3.8	3.9	1.70	4.0	3.8	3.9	1.40	3.7	3.9	.30
6	Ideas important to teacher	3.4	3.3	3.2	1.90	3.5	3.3	3.4	1.30	3.1	3.2	.03
7	Teacher encourages questions and ideas	3.6	3.5	3.6	.22	3.7	3.5	3.5	.27	3.8	3.8	.00
8	Teacher accepts different ideas	3.3	3.3	3.5	.27	3.3	3.3	3.4	.24	3.2	3.6	.71
9	Teacher angers easily	2.9	3.1	3.1	.55	3.0	3.1	3.1	.27	3.7	3.1	2.20
10	Freedom of expression	3.2	3.1	3.4	1.00	3.2	3.2	3.3	.23	3.1	3.5	.85
11	Enjoy participation	3.6	3.4	3.5	1.30	3.6	3.4	3.5	1.10	3.6	3.6	.01
12	Learn a lot	4.3	4.1	4.0	2.70	4.3	4.2	3.6	12.30**	4.2	4.1	.05
13	Fear of being picked on	2.7	2.8	3.2	1.80	2.8	2.8	3.3	2.50	2.7	3.2	.93
14	Like teacher	4.3	4.3	4.5	.80	4.2	4.3	4.5	1.20	4.0	4.4	.82
15	Like school	4.1	3.8	3.7	2.50	4.1	3.9	3.7	1.90	2.9	3.6	1.90
16	Classmates friendly	3.7	3.4	3.2	6.10	3.7	3.4	3.4	4.10*	3.2	3.3	.15
17	Overall	3.7	3.6	3.6	1.70	3.7	3.6	3.6	1.40	3.5	3.6.	.50

*statistically significant at the .05 level

**statistically significant at the .01 level

than did white children in majority white classrooms, and white children in majority black classrooms thought they were learning the least. With respect to Item 13, white children in all white or majority white classrooms evidenced little concern about other students picking on them when compared with white children in majority black classrooms. Finally, white children in all white classrooms viewed the children in their class as being significantly more friendly than did white children in either majority white or majority black classrooms.

When black student responses were treated separately there were no significant differences on any questionnaire item due to racial composition of classrooms. It seems that racial composition, whether majority white or majority black, was unrelated to the attitudes of black children toward school. White children, however, appeared to be sensitive to racial composition and reflected more positive attitudes in the all white classrooms than in the majority black classrooms.

Table 9 presents data related to Question 4 regarding differences in opinions of black and white students. The table shows item by item comparisons between responses of black students and white students to each questionnaire item. Although attitudes of black children did not vary as a function of whether those children were in either majority white or majority black classrooms, black children did have significantly more unfavorable attitudes than did white children on several items. With respect to Item 6, "Does your teacher think what you say is important?", white students thought that their ideas were more important to the teacher than did black children. Black children thought their teacher got angry when little problems came up in class (Item 9) much more frequently than did white children. Also, there was a highly significant statistical difference between attitudes of white children and black children toward school (Item 15). White children liked school much better than did black children.

Table 9

BLACK-WHITE COMPARISONS ON ELEMENTARY STUDENT OPINION QUESTIONNAIRE

Item	Key Item Words	Blacks	Whites	t
1	Understand teacher	3.8	3.9	-1.5
2	Teacher fair	4.1	4.3	-1.1
3	Kids behave	2.8	3.1	-1.9*
4	Teacher likes you	4.3	4.1	1.1
5	Class fun	3.8	3.9	-0.6
6	Ideas important to teacher	3.2	3.4	-2.5**
7	Teacher encourages questions and ideas	3.8	3.6	0.9
8	Teacher accepts different ideas	3.3	3.3	-0.0
9	Teacher angers easily	3.5	3.0	2.8**
10	Freedom of expression	3.2	3.2	.0
11	Enjoy participation	3.6	3.5	0.6
12	Learn a lot	4.2	4.1	.25
13	Fear of being picked on	2.8	2.9	-0.3
14	Like teacher	4.1	4.3	-1.1
15	Like school	3.1	3.9	-4.1**
16	Classmates friendly	3.2	3.5	-2.4*
17	Overall	3.5	3.6	-1.5

*statistically significant at the .05 level

**statistically significant at the .01 level

Finally, white children viewed their classmates to be much more friendly than did black children (Item 16).

There are probably many reasons for the differences observed in student attitudes. However, the frequently mentioned reason regarding racist teacher behavior does not appear to be valid for the Kalamazoo situation. In behavioral terms, there was no relation between racial composition of classrooms and verbal interaction patterns. Teachers were as accepting, or a little more accepting, of black student talk than they were of white student talk and meaningful nonderogatory black verbal exchanges were a little more frequent than would have been expected. Yet black children felt that the teacher didn't have as much respect for their ideas as did white children, black children liked school less than white children, etc. Since these differences in student opinions cannot be attributed to differences in observable teacher behavior. The more negative attitudes of black children may be a function of factors operating outside of the formal classroom or, at least, of cues other than those measured by the interaction analysis observers. More is said about this in the final chapter.

Secondary Level--The design for analyzing secondary student opinion data was identical to that for analyzing secondary verbal interaction data. Two levels on the predictor variable, racial composition, were considered. These levels were all white classrooms and mixed classrooms. Again, all mixed classrooms were majority white. The criterion measure in this analysis was student opinion. As Table 10 shows, the racial composition of classes was unrelated to student attitudes toward the teacher, the class, the general school environment, and each other at the secondary level. This was true when average responses of all students per item were considered and also when responses of white students were analyzed separately. Black student responses were not analyzed separately due to the fact that there was only one level on the predictor variable which contained black students since no black students were in all white classes.

Table 10

COMPARISONS ON SECONDARY STUDENT OPINION QUESTIONNAIRE

Item	Key Item Words	All Students White	All Students Mixed	All Students F	White Students White	White Students Mixed	White Students F
1	Understand ideas	3.8	3.9	.40	3.8	3.4	2.00
2	Teacher fair	3.8	3.8	.00	3.8	3.9	.16
3	Classroom orderly but comfortable	3.5	3.5	.13	3.5	3.5	.10
4	Teacher likes you	3.5	3.5	.16	3.5	3.6	.06
5	Class interesting and challenging	3.0	3.2	1.20	3.0	3.2	1.20
6	Teacher respects your ideas	3.5	3.5	.60	3.5	4.0	2.00
7	Teacher encourages questions and ideas	3.9	3.9	.03	3.9	4.0	.23
8	Teacher accepts your opinions	3.4	3.3	.20	3.4	3.3	.74
9	Teacher angers easily	2.9	2.7	.47	2.9	2.6	1.00
10	Freedom of expression	3.3	3.4	.45	3.3	3.4	.13
11	Enjoy participation	2.9	2.9	.00	2.9	3.0	.30
12	Learn a lot	3.6	3.6	1.30	3.6	3.6	1.70
13	Fear of being picked on	1.8	1.8	.04	1.8	1.8	.10
14	Like most teachers	3.4	3.5	1.20	3.4	3.5	2.90
15	Like school	3.5	3.4	1.20	3.5	3.4	.27
16	Classmates friendly	3.5	3.5	.04	3.5	3.5	.15
17	Normal	3.5	3.4	.48	3.5	3.4	.90

Although no significant differences were found in the attitudes of secondary students which were related to whether students were in all white or mixed classrooms, it was still of interest to determine whether the opinions of black students and white students differed from each other. This latter consideration deals with Question 4 at the secondary level, and Table 11 presents the related findings. As the table indicates, there were significant differences with respect to two items. On item 1, white students expressed the feeling that ideas were presented at a level which they could understand much more so than did black students. In response to item 8, white students indicated that teachers were able to see things from their point of view to a much higher degree than did black students.

As was true at the elementary level the findings for secondary are of special interest when considered in combination with the findings based on the interaction analysis data. More extensive interpretations of these findings are presented in the next chapter.

Having found significant differences on certain items between black students and white students, it was decided to determine if there was a relation between grade level and the way students viewed school by investigating Question 5,

> *Do students at different grade levels have different reactions toward teachers, the school environment, and each other?*

Table 12 shows mean values and F ratios for the four grade levels considered and the average responses of students in these grade levels to each item of the questionnaire. Clearly there were statistically significant differences on several of the items. Elementary students found their teacher's help more fair than did secondary students. They found the class is being more orderly. They thought teachers liked them better than did secondary students. They thought their class was more fun. They liked to be called on better. They

Table 11

BLACK-WHITE COMPARISONS ON SECONDARY STUDENT OPINION QUESTIONNAIRE

Item	Key Item Words	Blacks	Whites	t
1	Understand ideas	3.5	3.9	3.6
2	Teacher fair	3.7	3.9	-1.1
3	Classroom orderly but comfortable	3.8	3.5	1.6
4	Teacher likes you	3.4	3.6	-0.7
5	Class interesting and challenging	3.2	3.1	0.5
6	Teacher respects your ideas	3.6	3.9	-2.7*
7	Teacher encourages questions and ideas	3.8	3.9	-2.3
8	Teacher accepts your opinions	3.1	3.3	2.2*
9	Teacher angers easily	3.0	3.7	1.1
10	Freedom of expression	3.6	3.4	1.3
11	Enjoy participation	2.8	2.9	-1.3
12	Learn a lot	3.9	3.9	-0.0
13	Fear of being picked on	1.7	1.8	-0.3
14	Like most teachers	3.4	3.5	-0.3
15	Like school	3.1	3.5	-1.8
16	Classmates friendly	3.4	3.3	1.0
17	Racist	1.2	1.4	-0.5

*statistically significant at the .05 level

Table 12

RELATION BETWEEN STUDENT OPINIONS AND GRADE LEVEL FOR ALL STUDENTS

	Student Opinion Questionnaire Item	Grade Level Second	Fourth	Seventh	Tenth	F
1.	Presentation of ideas	3.97	3.94	3.81	3.93	1.45
2.	Is teacher fair?	4.21	4.26	3.70	4.06	7.67*
3.	Is class orderly?	2.98	3.07	3.30	3.83	10.42*
4.	Does teacher like you?	4.33	4.04	3.40	3.69	27.81*
5.	Is your class fun?	3.91	3.84	2.93	3.41	26.20*
6.	Does your teacher respect your ideas?	3.33	3.79	4.01	3.54	11.00*
7.	Encourage student participation?	3.35	3.86	3.88	3.99	8.56*
8.	Can teacher see your point of view?	3.23	3.46	3.33	3.56	1.80
9.	Does teacher get angry?	3.13	2.94	3.03	2.44	4.43*
10.	Do you feel free to express your ideas?	3.13	3.29	3.30	3.55	2.14
11.	Do you like to be called on?	3.62	3.48	2.93	3.32	18.69*
12.	Do you feel you learn a lot?	4.15	4.19	3.52	3.57	23.30*
13.	Do you worry that other students might pick on you?	3.12	2.57	2.07	1.38	43.18*
14.	Do you like your teacher?	4.35	4.23	3.41	3.51	31.24*
15.	Do you like this school?	4.11	3.74	3.48	3.31	10.88*
16.	Are students friendly?	3.44	3.53	3.23	3.34	2.77
17.	Overall	3.70	3.60	3.30	3.40	13.20*

*Statistically significant at the .01 level

believed they were learning a lot. They worried much more than did secondary students about being picked on. Finally, they liked their teachers and their school much better. On the other hand, secondary students indicated that teachers had more respect for their ideas than did elementary students and that they were more encouraged by teachers to participate in class.

Tables 13 and 14 show the relation between grade level and student opinions when black students and white students were considered separately. Table 13 shows quite clearly that, although black students and white students have some different opinions as reflected in earlier analyses, black students also saw school differently as a function of grade level. The nature of these different views was a direct function of grade level as it was for all students combined. In general, black second and fourth graders had much more favorable attitudes toward the several factors measured by the opinion questionnaire than did black seventh and tenth grade students. Table 14 indicates that the results for white students were the same in that younger white students liked school much better than did older white students.

Teacher Perceptions

Question 6 dealt with teacher perceptions which might be a function of classroom racial composition. The specific question studied was:

> Do teacher perceptions of their jobs, principals, and students vary with classroom racial composition based on the neighborhood school concept?

Once again, for purposes of analysis, the sample was partitioned in the same way as it was for the above analyses. Elementary classes were treated separately from secondary. Elementary classrooms were divided into all white, majority white, majority black, and secondary classrooms were divided into all white and majority white. Table 15 displays the the results of elementary and secondary teacher responses to two questionnaires. The Teacher Opinion Questionnaire, presented in the appendix, was designed to determine teacher role stress on three work components: the building principal, teaching as a job, and the students.

Table 13

RELATION BETWEEN STUDENT OPINIONS AND
GRADE LEVEL FOR BLACK STUDENTS

Student Opinion Questionnaire Item	Grade Level				
	Second	Fourth	Seventh	Tenth	F
1. Presentation of ideas	3.74	3.77	3.42	3.65	1.20
2. Is teacher fair?	4.28	4.04	3.51	3.94	2.37
3. Is class orderly?	2.92	2.75	3.72	3.91	6.94*
4. Does your teacher like you?	4.71	4.02	3.38	3.45	5.45
5. Is your class fun?	4.00	3.71	3.05	3.45	2.80*
6. Does teacher respect your ideas?	3.31	3.04	3.81	3.36	2.61
7. Does teacher encourage student participation?	3.45	3.98	3.55	4.01	1.68
8. Can teacher see your point of view?	3.89	3.02	2.96	3.22	2.74
9. Does teacher become angry?	3.40	3.62	3.31	2.54	3.65*
10. Do you feel free to express your ideas?	3.14	3.28	3.73	3.45	.82
11. Do you like to be called on?	3.62	3.61	2.71	2.83	4.10*
12. Do you feel you learn a lot?	4.38	4.01	3.48	3.65	2.82*
13. Do you worry that other students might pick on you?	3.46	2.53	1.74	1.75	6.29**
14. Do you like your teachers?	4.65	3.77	3.55	3.31	4.28*
15. Do you like this school?	3.31	3.01	3.28	2.96	.28
16. Are fellow students friendly?	3.24	3.17	3.65	3.11	1.16
17. Overall	3.70	3.50	3.30	3.30	3.10

*statistically significant at the .05 level

**statistically significant at the .01 level

Table 14

RELATION BETWEEN STUDENT OPINIONS AND
GRADE LEVEL FOR WHITE STUDENTS

Student Opinion Questionnaire Item	Grade Level				
	Second	Fourth	Seventh	Tenth	F
1. Presentation of ideas	3.9	3.9	3.9	3.9	.19
2. Is teacher fair?	4.2	4.3	3.7	4.1	5.40**
3. Is class orderly?	3.1	3.1	3.3	3.9	8.20**
4. Does your teacher like you?	4.3	3.9	3.4	3.7	17.30**
5. Is your class fun?	3.9	3.8	2.9	3.4	21.60**
6. Does teacher respect your ideas?	3.5	3.4	3.8	4.1	10.40**
7. Does teacher encourage student participation?	3.3	3.8	3.9	4.0	7.10**
8. Can teacher see your point of view?	3.2	3.4	3.4	3.6	2.20
9. Does teacher become angry?	3.2	2.9	2.9	2.4	4.60**
10. Do you feel free to express your ideas?	3.2	3.2	3.3	3.5	1.40
11. Do you like to be called on?	3.6	3.4	3.0	2.9	13.30**
12. Do you feel you learn a lot?	4.1	4.1	3.5	3.6	14.10**
13. Do you worry that other students might pick on you?	3.1	2.6	2.1	1.4	37.00**
14. Do you like your teachers?	4.3	4.2	3.4	3.6	24.80**
15. Do you like this school?	4.2	3.7	3.5	3.4	11.90**
16. Are fellow students friendly?	3.5	3.6	3.2	3.4	4.30**
17. Overall	3.7	3.6	3.3	3.4	10.80**

**statistically significant at the .01 level

Table 15

TEACHER OPINIONS RELATED TO CLASSROOM RACIAL COMPOSITION

Questionnaire	Elementary				Secondary		
	All White	Majority White	Majority Black	F	All White	Majority White	F
Teacher describes principal on TOQ	.55	.63	.58	.19	.62	.58	.05
Teacher describes job on TOQ	.31	.58	.34	4.47*	.36	.63	2.96
Teacher describes students on TOQ	.31	.59	.27	5.80*	.45	.54	.41

*statistically significant at the .05 level

As the table indicates, elementary teachers had more role stress regarding their job and students in the majority white classrooms than in either the all white or the majority black classrooms. However, the amount of absolute stress was so small that this particular finding is of little practical significance. At the secondary level there was no relation between racial composition and role stress of teachers.

Teachers were also asked to fill out the student opinion questionnaires by estimating how they thought the students in their class would respond on the average to each questionnaire item. As Table 15 indicates, at the elementary level there was no relation between racial composition of classrooms and how teachers thought students would respond to the questionnaire. This finding is consistent with the observation that teachers used essentially the same teaching model in all elementary classrooms. At the secondary level, however, teachers estimated that students in all white classrooms would have more favorable opinions than students in mixed classrooms. This estimate was incorrect as the above analysis showed that there was no relation between racial composition and opinions of secondary students.

Congruence Between Student and Teacher Opinions

The final question investigated was the accuracy of teacher estimates of student opinions. At the elementary level opinions of students were related to racial composition while this relation was not reflected in teacher perceptions of the opinions. Just the reverse was found at the secondary level where student opinions were unrelated to racial composition although teacher estimates of student opinions reflected a relationship. Given these discrepancies between teacher and student responses to the student opinion questionnaires, Question 7 was investigated to yield a better understanding of the nature of these discrepancies. The specific question studied was:

> What is the congruence between student opinions regarding selected classroom variables and teacher perceptions of student opinions?

The analysis for Question 7 consisted of correlating the average response of each class to each item with the corresponding teacher response. Table 16 shows the computed correlations for each item and for all items treated as a group for both elementary and secondary classrooms. Obviously, elementary teachers did not have an accurate assessment of how their students viewed school. On most questionnaire items there simply was no relation between the way students responded and the way teachers thought they would respond. Exceptions were Item 1, "Are the ideas presented at a level which you can understand?", Item 4, "Do you feel that this teacher likes you?", and Item 6, "Does this teacher have respect for the things you say in class?". On these items there was a significant positive correlation.

The same analysis at the secondary level indicated that secondary teachers had a more accurate assessment of how students viewed school than did the elementary teachers. As can be seen in Table 16, there was a positive significant statistical relation between student responses and teacher estimates of how students would respond on: Item 1, "Are the ideas presented at a level which you can understand?"; Item 2, "Is this teacher fair and impartial in his treatment of all students in the class?"; Item 3, "Is this classroom orderly but relaxed and friendly?"; Item 4, "Do you feel that this teacher likes you?"; Item 6, "Does this teacher has respect for the things you have to say in class?"; Item 7, "Does this teacher encourage you to raise questions and express ideas in class?"; Item 8, "Is this teacher able to see things from your point of view?"; and Item 17, (the overall average). Nevertheless, even at the secondary level teachers had a very poor assessment of how students viewed school on the following significant items: Item 5, "Is this class interesting and challenging?"; Item 9, "Does this teacher become angry when little problems arise in class?"; Item 10, "Do you feel free to give your own ideas and express your own opinions in this class?"; Item 11, "Do you like to be called on in this class?"; Item 12, "Do you feel like you learn a lot in this class?"; Item 13, "Do you like this school?";

Table 16

RELATION BETWEEN STUDENT OPINIONS AND
TEACHER PERCEPTIONS OF STUDENT OPINIONS

Student Opinion Questionnaire Item	Correlation Between Student and Teacher Responses	
	Elementary	Secondary
1. Presentation of ideas	.36**	.36*
2. Is teacher fair?	.11	.44**
3. Is class orderly?	.23	.36*
4. Does your teacher like you?	.27*	.40*
5. Is your class fun?	.07	.09
6. Does teacher respect your ideas?	.31*	.51**
7. Does teacher encourage student participation?	.10	.46**
8. Can teacher see your point of view?	.03	.57**
9. Does teacher become angry?	.17	.23
10. Do you feel free to express your ideas?	-.06	.25
11. Do you like to be called on?	-.05	-.06
12. Do you feel you learn a lot?	.10	.06
13. Do you worry that other students will pick on you?	-.15	.20
14. Do you like your teachers?	.02	.32
15. Do you like this school?	.06	.19
16. Are fellow students friendly?	.05	-.01
17 Overall	.23	.46

*statistically significant at the .05 level

**statistically significant at the .01 level

Item 16, "Are the students in this school friendly?". Hence, it can be concluded that in general teachers at the secondary level also had an inaccurate perception of how students were reacting to several important factors of their school environment.

Chapter V

Summary, Conclusions, and Recommendations

In this chapter an attempt has been made to summarize the study in non-statistical terms, discuss major conclusions, and present recommendations.

Summary

Shortly after the Kalamazoo Public Schools adopted an extensive desegregation plan based on a two-way bussing approach patterned after the Berkeley California Schools, the writer was commissioned to conduct a study designed to reveal strengths and weaknesses of the proposed plan. It was originally intended to collect appropriate baseline data prior to desegregation and then to observe subsequent changes in the data at various times after the desegregation had been implemented to obtain systematic feedback regarding desegregation effects. The collection, analysis, and interpretation of the baseline data collected during the spring of 1971 constituted Phase I of the overall study. The findings of only the Phase I study are reported here. It is important to keep in mind that this document is a report of research findings in classrooms operating on the neighborhood school concept. In no way should the study be thought of as an evaluation of desegregation effects.

The criterion variables receiving primary emphasis in the study were classroom verbal interaction patterns. Other outcome variables investigated were student and teacher opinions. The basic design attempted to determine how the racial composition of classrooms based on the neighborhood school concept related to each of these criterion measures. Also included was an investigation of the relation which race had with verbal interaction patterns and student opinions. The final analysis was a computation of the correlation between student opinions and teacher perceptions of student opinions.

[illegible] Although changes were incorporated which allowed for the differentiation of black from white student talk. Also, Flanders' three categories for designating indirect teacher behavior were combined into a single category. Student opinion questionnaires were based on instruments developed by the writer as director of the Educator Feedback Center at Western Michigan University. All instruments were used in a representative sample of classrooms in the Kalamazoo Public Schools. The sample consisted of 32 second grade classes, 31 fourth grade classes, 20 seventh grade classes, and 14 tenth grade classes. After two days of intensive training in the use of behavior classification systems and the administration of opinion questionnaires, 25 observers and four research assistants, working with the writer, began collecting data. Data on 61 verbal interaction patterns were gathered for an average of four to seven hours in each of 97 classrooms. The administration of opinion questionnaires required approximately one additional hour. All baseline data were collected over a period of two weeks during late spring of the 1971 school year.

The major questions investigated during the Phase I study and summaries of the primary findings corresponding to individual questions are listed below. In each case a summary for the elementary level is followed by one for the secondary level.

Question 1. Do classroom verbal interaction patterns vary with racial composition based on the neighborhood school concept?

At the elementary level there was no meaningful relation between racial composition based on the neighborhood school concept and any of the classroom verbal interaction variables studied. Essentially the same verbal interaction patterns were observed at the elementary level in all white, majority white, and majority black classrooms. Teachers were just as accepting of black student ideas as they were of white student ideas, and they engaged in the same amount

[illegible]

[illegible]

[illegible]

[illegible]y sustained verbal exchanges were more likely to occur within than [illegible]een races, and derogatory exchanges occurred more frequently between [illegible] within races. However, as was true with elementary students, derogatory [illegible]anges practically never occurred.

Question 3. Do student reactions to teachers, the school environment, and to each other vary with racial composition based on the neighborhood school concept?

When student opinions were assessed at the elementary level there were no differences in the opinions of black children which could be attributed to racial composition of classrooms. White children, however, did appear to be somewhat sensitive to the racial composition factor. White children in all white classrooms reported that their teacher liked them better than did white children in majority white classrooms, who in turn said that their teacher liked them better than did white children in majority black classrooms. Also, white children in all white classrooms believed that they were learning more than did white children in majority white classrooms, while white children in majority black classrooms thought they were learning the least of the three groups compared. White children in all white or majority white classrooms evidenced little concern about other students picking on them while white children in majority black classrooms indicated considerable concern in this regard. Finally, white children in all white classrooms viewed the children in their class to be significantly more friendly than did white children in either majority white or majority black classrooms.

At the secondary level, when student opinions were related to racial composition of classrooms, no significant relationship was found for any of the 16 items on the questionnaire. The attitudes of secondary students, both black and white, were unrelated to the racial composition of their classrooms.

Question 4. Do reactions of black students toward teachers, the school environment and each other differ from those of white students?

At the elementary level black children had significantly more unfavorable attitudes toward school than did white children on several items. Black children: (1) did not view their ideas to be as important to the teacher as did white children; (2) thought their teacher got angry more frequently than did white children; (3) liked school less than did white children; and (4) rated their classmates as being less friendly than did white children.

At the secondary level two significant differences between opinions of black students and white students were observed. White students indicated that ideas were presented at a level which they could understand much more so than did black students, and they reported that teachers were able to see things from their point of view to a higher degree than did black students.

Question 5. Do students at different grade levels have different reactions toward teachers, the school environment, and each other?

When grade level was related to student opinions, highly significant differences were found on nearly every questionnaire item. The nature of these differences generally followed a pattern whereby second and fourth grade children had more favorable attitudes than did seventh and tenth grade students. Two exceptions were that secondary students viewed their teachers as having more respect for their ideas and as being more encouraging of student participation than did elementary students. When opinions of black students and white students were treated separately by grade level, the differences were still observed in that the younger students had more favorable attitudes than did the older students.

Question 6. Do teacher perceptions of their jobs, principals, and students vary with classroom racial composition based on the neighborhood school concept?

When a measure of teacher role stress was related to classroom racial composition, elementary teachers in majority white classrooms reported slightly more role stress than did those in all white or majority black classrooms. At the

secondary level, however, teachers in all white classrooms predicted that their students would have more favorable attitudes than did teachers in mixed classes.

Question 7. What is the congruence between student opinions regarding selected classroom variables and teacher perceptions of student opinions?

The correlation between teacher perceptions of student opinions and actual student opinions was very low. At the elementary level teachers had a poorer than chance assessment of student opinions on 13 out of 16 items. At the secondary level the accuracy of teacher perceptions was a little better, although teachers still predicted below a reasonable chance estimate on 9 of the 16 questionnaire items.

Conclusions

As one goes from the type of summary statements listed above to more general conclusions based on these statements, one begins to get removed from his data. This being the case, general conclusions normally have weaker empirical support than do simple summaries of findings. Recognizing that many varied conclusions may be warranted as a result of the Phase I study, the writer feels obligated to present several personal reactions which seem to have relevance for the Kalamazoo Public Schools.

In behavioral terms there is no reason to believe that Kalamazoo teachers, as a group, discriminate against black students. Teachers are just as accepting of ideas expressed by blacks as of those expressed by whites. Yet black students at both the elementary and secondary levels have more unfavorable attitudes toward the school environment and seem to feel that teachers are less accepting of them than do whites. It seems likely that these differences in student opinions may be a function of environmental influences over which the teacher has little control. Perhaps the massive negative publicity regarding white racism has influenced the opinions of black students to such a degree that

racially unbiased teacher behavior is still interpreted as biased by black students.

A similar phenomenon may be operating with respect to white children. White children in majority black classrooms expressed more negative concerns regarding their school environment than did white children in all white or majority white classrooms in spite of the fact that black students engaged in more positive and less negative classroom behavior than would have been predicted based on the ratio of black to white students. These negative white opinions may be more a function of racist influence in extra-school environments than of what actually happens in school.

Many positive teacher practices, such as those implied by the above conclusions, were identified in this report. Nevertheless, like all other groups, there are areas in which the Kalamazoo teachers could become more effective. The rather consistent teaching-learning patterns found in nearly all classrooms regardless of racial composition suggest that most teachers seem to view all groups of students as products to be treated according to fixed teaching models rather than as individual classrooms having different needs. Furthermore, teachers appear to be somewhat unaware of the needs and concerns of black and white students alike. This contention is supported by the very inaccurate teacher perceptions of the way students view school. Elementary teachers were not aware of white student opinions varying as a function of racial composition. Secondary teachers attributed a difference in student attitudes due to racial composition which did not exist. At both levels teachers simply did not know how their students were reacting to them, to the learning environment, or to each other.

Elementary teachers seem to use essentially the same teaching model regardless of classroom racial composition. In one sense it might appear as if this equivalence of teaching models is desirable due to the fact that it further demonstrates a lack of behavioral racial discrimination on the part of teachers.

On the other hand, given considerable differences in achievement related to classroom racial composition, perhaps classroom verbal interaction patterns should vary as a function of racial composition. It is quite possible that teaching models which result in high achievement in all white or majority white classrooms are not the most effective for majority black classrooms.

A difference in teaching strategies was observed at the secondary level. There appears to be more structure in mixed classrooms than in all white classrooms. One explanation for this difference might be that secondary teachers may be more successful than elementary teachers in adapting to needs of different student groups. A different interpretation is that teachers in mixed classrooms are more concerned about discipline than are those in all white classrooms and structure the classroom environment in such a way as to minimize student interaction.

The significant relation between grade level and student attitudes of both black and white students strongly suggests that something happens to "turn kids off" with school over a period of years. Relatively favorable attitudes toward teachers, the school environment, and other students seem to deteriorate steadily as students progress through school. This is a disturbing observation which undoubtedly is not unique to Kalamazoo. The problem is especially acute for black children when one considers the fact that their attitudes are more negative than those of white children to begin with.

Recommendations

From a scientific point of view it is even more risky to make recommendations than to draw conclusions. Nevertheless, the following recommendations based on results of the Phase I study are presented for the reader's consideration.

Regardless of the type of desegregation plan finally adopted by the Kalamazoo Public Schools, it is unreasonable to believe that the plan will be successful

unless accompanied by concomitant changes in other areas. As an attempt to implement changes in at least one other area, it is recommended that extensive in-service training be provided for Kalamazoo teachers. One type of training deemed necessary as a result of this report involves experimentation with different teaching models for different groups of students and learning objectives. The training should include techniques for providing teachers with rapid systematic feedback regarding the extent to which both process and product objectives are achieved. The use of behavioral feedback based on appropriate behavior classification systems and of objectively measured student reactions could go far toward helping teachers relate more effectively with students at all levels. Furthermore, it seems reasonable to assume that such changes in teacher effectiveness should result in improved student learning.

Because the primary thrust of this study was directed toward classroom variables, the above recommendations relate to techniques for improving teacher effectiveness. It is recognized that other factors such as administrative practices, parental attitudes, and board of education policies share responsibility with teachers for the quality of education offered by the Kalamazoo Public Schools. A discussion of these other factors was beyond the scope of this study.

APPENDIX A

THE TEACHER OPINION QUESTIONNAIRE

and

THE ADMINISTRATOR IMAGE QUESTIONNAIRE

#____

TEACHER OPINION QUESTIONNAIRE

Respond to each of the following questions from two different points of view. First indicate what you believe to be a "reasonable expectation" for your job and then rate the "actual situation."

(1) READ each item carefully,

(2) THINK about the item in terms of how much you could reasonable expect it to be present in your job (reasonable expectation) and in terms of how much it is actually present in your job (actual situation).

(3) DECIDE whether (N) Never, (S) Seldom, (O) Occasionally, (F) Frequently, or (A) Always represents your reaction to the question for "reasonable expectation" and whether N, S, O, F, or A represents your reaction to the question for "actual situation."

(4) DRAW A CIRCLE around <u>one</u> of the letters under the "reasonable expectation" column and also around <u>one</u> of the letters under the "actual situation" column which indicate your response to the statement.

<u>Code</u>

N = Never
S = Seldom
O = Occasionally
F = Frequently
A = Always

(5) MARK your answers as shown in the examples below.

		Reasonable Expectation					Actual Situation				
EXAMPLE:	My job is fun	N	S	O	F	A	N	S	O	F	A
	My boss is nice	N	S	O	F	A	N	S	O	F	A

Note that we are asking for a "reasonable expectation" in terms of your job rather than a completely ideas situation. In the example it may be unreasonable to expect a particular job to be fun <u>always</u> because of the nature of the job. Likewise, you may not expect your boss to always be nice. The point is, "What is a reasonable expectation and what is the actual situation?" The actual situation may occur more often, about the same, or less often than a reasonable expectation.

Please describe your principal on the following factors:

		Reasonable Expectation					Actual Situation				
		Never	Seldom	Occasionally	Frequently	Always	Never	Seldom	Occasionally	Frequently	Always
1.	Asks my advice	N	S	O	F	A	N	S	O	F	A
2.	Hard to please	N	S	O	F	A	N	S	O	F	A
3.	Impolite	N	S	O	F	A	N	S	O	F	A
4.	Praises good work	N	S	O	F	A	N	S	O	F	A
5.	Tactful	N	S	O	F	A	N	S	O	F	A
6.	Doesn't supervise enough	N	S	O	F	A	N	S	O	F	A
7.	Quick temper	N	S	O	F	A	N	S	O	F	A
8.	Tells me where I stand	N	S	O	F	A	N	S	O	F	A
9.	Annoying	N	S	O	F	A	N	S	O	F	A
10.	Stubborn	N	S	O	F	A	N	S	O	F	A
11.	Knows job well	N	S	O	F	A	N	S	O	F	A
12.	Leaves teachers on their own	N	S	O	F	A	N	S	O	F	A
13.	Around when needed	N	S	O	F	A	N	S	O	F	A
14.	Follows through on his promises	N	S	O	F	A	N	S	O	F	A
15.	Predictable	N	S	O	F	A	N	S	O	F	A
16.	Inclined to experiment	N	S	O	F	A	N	S	O	F	A

Please describe your teaching job on the following factors:

		Reasonable Expectation					Actual Situation				
		Never	Seldom	Occasionally	Frequently	Always	Never	Seldom	Occasionally	Frequently	Always
1.	Fascinating	N	S	O	F	A	N	S	O	F	A
2.	Routine	N	S	O	F	A	N	S	O	F	A
3.	Too demanding	N	S	O	F	A	N	S	O	F	A
4.	Satisfying	N	S	O	F	A	N	S	O	F	A
5.	Boring	N	S	O	F	A	N	S	O	F	A
6.	Pleasant	N	S	O	F	A	N	S	O	F	A
7.	Useful	N	S	O	F	A	N	S	O	F	A
8.	Tiresome	N	S	O	F	A	N	S	O	F	A
9.	Challenging	N	S	O	F	A	N	S	O	F	A
10.	Frustrating	N	S	O	F	A	N	S	O	F	A
11.	Simple	N	S	O	F	A	N	S	O	F	A
12.	Endless	N	S	O	F	A	N	S	O	F	A
13.	Give sense of accomplishment	N	S	O	F	A	N	S	O	F	A

Please describe the students with whom you work on the following factors:

		Reasonable Expectation					Actual Situation				
		Never	Seldom	Occasionally	Frequently	Always	Never	Seldom	Occasionally	Frequently	Always
1.	Stimulation	N	S	O	F	A	N	S	O	F	A
2.	Slow	N	S	O	F	A	N	S	O	F	A
3.	Ambitious	N	S	O	F	A	N	S	O	F	A
4.	Responsible	N	S	O	F	A	N	S	O	F	A
5.	Easy to make enemies	N	S	O	F	A	N	S	O	F	A
6.	Talk too much	N	S	O	F	A	N	S	O	F	A
7.	Lazy	N	S	O	F	A	N	S	O	F	A
8.	Unpleasant	N	S	O	F	A	N	S	O	F	A
9.	Narrow interests	N	S	O	F	A	N	S	O	F	A
10.	Active	N	S	O	F	A	N	S	O	F	A
11.	Perceptive	N	S	O	F	A	N	S	O	F	A
12.	Hard to understand	N	S	O	F	A	N	S	O	F	A

List below the names of three or four students in your class(es) that you feel are seen as student leaders. Indicate after each name the letter B for Black and W for all others.

ADMINISTRATOR IMAGE QUESTIONNAIRE

Please respond to the following questions honestly and frankly. Do not give your name: All responses are anonymous. Neither the administrator about whom these questions are asked nor anyone else will ever be able to associate your responses with you.

Immediately after completion, your responses, along with responses of others from your group, will be sent to Western Michigan University for analysis. Image profiles representing how your administrator is perceived along several dimensions by your group will then be sent to him. The profile is sent to no one else unless so requested by your administrator.

Fill in the blank which represents your reaction to each question. Be sure to fill in only one blank for each question. If you change an answer be sure to erase thoroughly the incorrect mark. **PLEASE USE LEAD PENCIL.**

WHAT IS YOUR OPINION CONCERNING THIS ADMINISTRATOR'S:

	POOR	FAIR	AVERAGE	GOOD	EXCELLENT
	POOR	FAIR	AVG.	GOOD	EXC.
1. VERBAL FLUENCY: (Does he express his ideas smoothly? Is he articulate?)					
2. CONSIDERATION OF OTHERS: (Is he patient, understanding, considerate and courteous?)					
3. ATTITUDE TOWARD HIS JOB: (Does he show interest and enthusiasm toward his work?)					
4. TECHNICAL COMPETENCE: (Does he have a thorough knowledge and understanding of his field?)					
5. ACHIEVEMENT DRIVE: (Does he have the initiative and persistence needed to accomplish meaningful goals?)					
6. SUPPORTIVENESS: (Does he support those responsible to him?)					
7. FLEXIBILITY: (Is he able to adjust rapidly to changes in plans or procedures?)					
8. PERFORMANCE UNDER STRESS: (How does he function under pressure?)					
9. OPENNESS: (Does he consider divergent views?)					
10. ENCOURAGEMENT OF STAFF PARTICIPATION: (Does he encourage you to raise questions and express opinions?)					
11. ABILITY TO DELEGATE RESPONSIBILITY: (Does he assign tasks to personnel capable of carrying them out?)					
12. INNOVATIVENESS: (Is he willing to try new approaches or methods?)					
13. SUCCESS IN COMMUNICATING EXPECTATIONS: (Does he clearly define and explain what is expected of staff members?)					
14. FAIRNESS: (Does he treat staff members in an unbiased and impartial manner?)					

68 88

	POOR	FAIR	AVERAGE	GOOD	EXCELLENT
	POOR	FAIR	AVG.	GOOD	EXC.
15. MAINTENANCE OF STAFF MORALE: (Does he create a feeling of unity and enthusiasm among those in contact with him?)					
16. SENSE OF HUMOR: (Does he have a sense of the ridiculous? Does he laugh at his own mistakes?)					
17. DECISION-MAKING ABILITY: (Does the evidence indicate that he is able to make constructive decisions?)					
18. EVALUATING ABILITY: (To what extent does he objectively evaluate programs and practices?)					
19. MANAGERIAL SKILL: (Does he coordinate the efforts of those responsible to him so that the organization operates at peak efficiency?)					
20. AWARENESS: (To what extent is he conscious of the problems that exist on your level?)					
21. SELF-CONTROL: (Does he maintain control of his emotions when things are not going right?)					
22. LEADERSHIP SKILL: (Does his leadership result in the attainment of mutually acceptable goals?)					
23. APPEARANCE: (Are his grooming and attire in good taste?)					

24. IF YOU WISH, PLEASE LIST ONE OR MORE WEAKNESSES OF THIS ADMINISTRATOR:

25. IF YOU WISH, PLEASE LIST ONE OR MORE STRENGTHS OF THIS ADMINISTRATOR:

APPENDIX B

CORRESPONDENCE

#1: Letter to teachers requesting their cooperation in the study

#2: Follow-up letter to teachers

#3: Letter to teachers guaranteeing the confidentiality of the study

WESTERN MICHIGAN UNIVERSITY

EDUCATOR FEEDBACK CENTER (616) 383-6056

12 BIGELOW HALL
KALAMAZOO, MICHIGAN 49001

Dear (Name of Teacher):

We would like to thank you for your excellent cooperation in our study which, of necessity, has been conducted at a very difficult time of the school year. In concluding the study for this year, we are asking for your reactions to the enclosed instruments:

1. Teacher Opinion Questionnaire
2. Administrator Image Questionnaire
3. Student Opinion Questionnaire

It is interesting to note that most of the teachers have asked for confidential feedback on the data collected in their classrooms. Your reactions to the above instruments would be most helpful to us in interpreting all findings including your classroom verbal interaction patterns and student perceptions. As is true with all components of the study, your responses will be held in strict confidence. For your convenience, we have enclosed a stamped self-addressed envelope and would appreciate your responses as soon as possible.

Thank you for your assistance.

Sincerely,

William D. Coats, Director
Educator Feedback Center

kw

I would like to receive feedback from the study. Please mail to:

_____
(Your name)

_____
(Address)

WESTERN MICHIGAN UNIVERSITY

EDUCATOR FEEDBACK CENTER (616) 383-6056

12 BIGELOW HALL
KALAMAZOO, MICHIGAN 49001

Dear (Name of Teacher):

We hope that you have had an opportunity to complete the forms given to you just before the close of school. If not, enclosed is another packet. We have already received most of the packets from your fellow teachers, and hope to have the remainder within a week. Completing the forms takes less than fifteen minutes, and returning the items in the self-addressed, stamped envelope takes only a moment.

No matter what action is finally taken regarding the busing program by the Board of Education, the data gathered in this study are extremely important for use in looking at any kind of changes that may develop. Much of the data has already been prepared for computer analysis. If you desire to have the feedback from your class(es), complete the form at the bottom of this letter and enclose in the return envelope with the completed forms. A profile of how all of your students viewed your class and an analysis of the verbal exchanges will be provided. Assistance in interpreting and using the data will be made available early in the fall at no cost to you.

Once again, we wish to assure you of the confidentiality of all individual responses. No one will ever be viewed as an individual, nor will any single group of teachers from one school, for example, be isolated. All analyses will be group based; e.g., all the students in a class will have their responses averages and all of the elementary teachers in the entire study will have their responses averaged.

Please fill out the forms now and mail today. We want to have as complete data as possible, Thank you for your fine cooperation and assistance.

Sincerely,

Bill Coats

I would like to receive feedback from the study. Please mail to:

_____
(your name)

_____
(address)

WESTERN MICHIGAN UNIVERSITY

EDUCATOR FEEDBACK CENTER (616) 383-6056

12 BIGELOW HALL
KALAMAZOO, MICHIGAN 49001

Dear (Name of Teacher):

It is very important for purposes of the study in which your class is involved that we get feedback from students. We need to know how children feel about various components of the classroom. I, as director of this project, guarantee that no one in your school system will ever know how students in your class responded to the questionnaires which we are asking your permission to administer. As is true with the measures of verbal interaction patterns, I will share the feedback with you, and you alone, if you request it. Incidentally, thousands of teachers throughout the United States have found this type of feedback to be helpful as indicated by their use of services of the Educator Feedback Center which I direct at Western Michigan University.

Be assured that the items in the questionnaire are solid from a research point of view. Considerable experimentation regarding these items has been conducted in many different research settings over a period of several years, and we feel that reactions of students to the questionnaire are extremely valuable. Our primary purpose for administering the questionnaires is to determine if there is a relationship between verbal interaction patterns and student perceptions of the learning environment as these relate to racial composition of classrooms. The monitor administering the questionnaires in each classroom is competent to interpret and explain the questions so as to obtain student reactions based on the entire year of experience in your classroom rather than on just this particular day.

We appreciate your cooperation up to now and hope you find this request to be a reasonable one. If not, feel free to decline to participate. Again, thank you very much for your assistance, and if you have any questions, feel free to call me at 383-1998.

Sincerely,

William Coats, Ph. D.
Director

WDC/aeh

APPENDIX C

GUIDELINES AND INFORMATION FOR CLASSROOM OBSERVERS AND MONITORS

OBSERVER GUIDELINES

1. Purpose of the study: To observe the verbal interaction patterns of a classroom and to find out how students see the classroom. We are not evaluating teachers, students, curriculum; we are not evaluating human relations or personalities.

2. Do check in with school office when you enter a building.

3. Contact each teacher on Tuesday afternoon, June 8. Introduce self; tell teacher what you will be doing and arrange a time schedule for as many of the seven hours as possible.

4. Do tell the teacher or principal my coordinator is _____
A message for him can be placed at phone nymber 383-1994.

5. Do know why you are in building and classroom. Work out a brief statement to explain your presence.

6. Do obtain a tentative schedule of teacher's total group activities schedule by hour and by day.

7. Don't try to be an evaluator. Offer no opinions. No advice. Don't be anything but an impartial collector of data!

8. Don't discuss observations with anyone! (Principal, students, neighbors, teachers,friends, or relatives).

9. Don't eat, smoke, or fraternize with any school personnel. Go to your car or elsewhere for lunch, to smoke, or to take a break. Lunch is from 11:30 to 12:40.

10. Don't spend time in the teachers' lounge.

11. Drop point for tally sheets: at the end of each day's observation turn in the complete tally sheets to the Dean's Office, 2nd floor of Sangren Hall, Room 2306. Extra forms are also available from that office.

12. Do act in a polite, impartial manner at all times!

13. Do remember your job at all times and do it!

STUDENT OPINION QUESTIONNAIRE

Instructions for Monitors

APPROACHING THE TEACHER:

1. Greet the teacher before class begins

2. Present the teacher with the introductory letter from Dr. Coats

3. If there are no objections by the teacher, request 15 minutes of class time to allow students to complete the questionnaire. Try to get the time immediately--otherwise schedule a convenient time.

4. Provide the teacher with a copy of the questionnaire if she requests one.

5. Indicate to the teacher that it is important that she not be present while the questionnaire is being administered.

ADMINISTERING THE QUESTIONNAIRE:

1. Read the following instructions, exactly as written, to the class: "Please answer the following questions honestly and frankly. Do not give your name. To encourage you to be frank, your regular teacher is absent from the classroom while these questions are being answered. Neither your teacher nor anyone else at your school will ever see your answers."

2. Make sure that students understand that they should answer the questions regarding their regular teacher and not concerning you, the temporary substitute in charge.

3. Be sure that students understand that they should think about the whole year when responding to the questions.

4. Be sure all students understand what they are to do--elementary students should complete the examples before proceeding to the actual questions.

5. When administering the questionnaire to elementary students, monitors should read each question and possible response slowly and clearly--repeat question and possible response. Check to make sure that the students are completing the questionnaire properly.

6. After the questionnaire is completed, collect the forms in such a way that black students and white students are separated. Place forms in the envelope provided and seal.

LIST OF REFERENCES

REFERENCES

Aberdeen, D.F. Adjustment to desegregation: A description of some differences among Negro elementary school pupils. Unpublished doctoral dissertation, University of Michigan. 1969.

Coats, W.D. Investigation and simulation of the relationships among selected classroom variables. Unpublished doctoral dissertation, University of Michigan, 1966.

Coopersmith, S. A method for determining types of self-esteem. Journal of Abnormal and Social Psychology, 1959, 59, 87-94.

Flanders, N.A. Analyzing teacher behavior. Reading, Massachusetts: Addison-Wesley Publishing Co., 1970.

Hayes, W. Statistics for psychologists. New York: Holt, Rinehart, and Winston, 1963.

Kerlinger, F.N. Foundations of behavioral research. New York: Holt, Rinehart, and Winston, 1964.

Purl, M.C. The effect of integration on the achievement of elementary pupils. Riverside, California: Department of research and evaluation, Riverside Unified Schools. November 1967 and March 1969.

Smith, P.C., et. al. The measurement of satisfaction in work and retirement: A strategy for the study of attitudes. Chicago: Rand McNally, 1969.

St. John, N.H. Minority group performance under various conditions of school ethnic and economic integration: A review of research. New York: Washington D.C.: The office of HEW. 1969. ERIC clearinghouse for the disadvantaged, 621-945.

Swanson, C.D. An investigation of role stress among students at selected church related, liberal arts colleges. Unpublished doctoral dissertation Western Michigan University, 1971.

ADDITIONAL REFERENCES RELATED TO THIS STUDY

Archibald, D.K. Report on change in academic achievement for a sample of elementary school children: Progress report on METCO. Unpublished manuscript, Brookline, Massachusettes, 1967.

Beher, J. A study of integration in racially unbalanced urban public schools. Unpublished manuscript, Syracuse University Youth Development Center, 1967.

Bryant, C.B. Some effects of racial integration of high school students on standardized achievement test scores, teacher grades, and drop-out rates in Angelton, Texas. Unpublished doctoral dissertation, University of Houston, 1968.

Carrigan, P.M. School desegregation via compulsory pupil transfer: Early effects on elementary school children. Final Report, September, 1967, Ann Arbor, Michigan Public Schools, Contract No. OEC-3-6-061320-0659, U.S. Office of Education Grant No. 6-1320.

Coleman, J., et. al. Equality of educational opportunity. Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1966.

Crowley, M.C. Cincinnati's experiment in Negro education: A comparative study of the segregated and mixed schools. Journal of Negro Education I, 1932.

Elliot, M.H., & Badal, A.W. Achievement and racial composition of schools. California Journal of Educational Research, 1965, 4, 158-166.

Fortenberry, J.H. The achievement of Negro pupils in mixed and non-mixed schools. Unpublished doctoral dissertation, University of Indiana, 1958.

Fox, D.J. Free choice open enrollment-elementary schools. Unpublished manuscript, Center for Urban Education, New York, 1966.

Graves, M.F. & Bedell, F.D. A three year evaluation of the White Plains racial balance plan. White Plains, New York: Board of Education, 1967.

Hammond, A.J. et. al. A survey of the adjustment of the Negro students who transferred to schools outside their neighborhoods during 1963-1964 under the New Seattle school board ruling. Unpublished naster's thesis. University of Washington, 1964.

Hansen, C.F. The scholastic performance of Negro and white pupils in the integrated public schools of the District of Columbia. Harvard Educational Review, 1960, 30, 216-236.

Jonsson, H.A. Attitudes towards bussing and integration expressed by Berkeley mothers, teachers, and children: A summary of 1966 survey. Mimeographed. Berkeley Unified School District, 1966.

Katzenmeyer, W.G. Social interaction and differences in intelligence test performance of Negro and white elementary school pupils. Unpublished doctoral dissertation, Duke University, 1962.

Lockwood, J.D. An examination of scholastic achievement, attitudes and home background factors of 6th grade Negro students in balamced and unbalanced schools. Unpublished doctoral dissertation, University of Michigan, 1966.

Matzen, S.P. The relationship between racial composition and scholastic achievement in elementary school classrooms. Unpublished doctoral dissertation, Stanford University, 1965.

McPartland, J. The relative influence of school desegregation and of classroom desegregation on the academic achievement of ninth grade Negro students. Interim report. Baltimore, Maryland: Center for the Study of Social Organization of Schools, John Hopkins University, 1967.

Moorfield, T.E. The bussing of minority group children in a big city school system. Unpublished doctoral dissertation, University of Chicago, 1967.

Samuels, I.G. Desegregated education and differences in academic achievement. Unpublished doctoral dissertation, Indiana University, 1958.

Stallings, F.H. A study of the immediate effects of integration on scholastic achievement in the Louisville public schools. Journal of Negro Education, 1959, 28, 439-444.

United States Commission on Civil Rights. Racial isolation in the public schools. Washington, D.C. 1967.

Weinberg, M. Desegregation research: An appraisal. Second edition. Bloomington, Indiana: Phi Delta Kappa, 1970.

Wilson, A.B. Educational consequences of segregation in a California community. Racial isolation in the public schools II: 165-206. U.S. Commission of Civil Rights, 1967.